February

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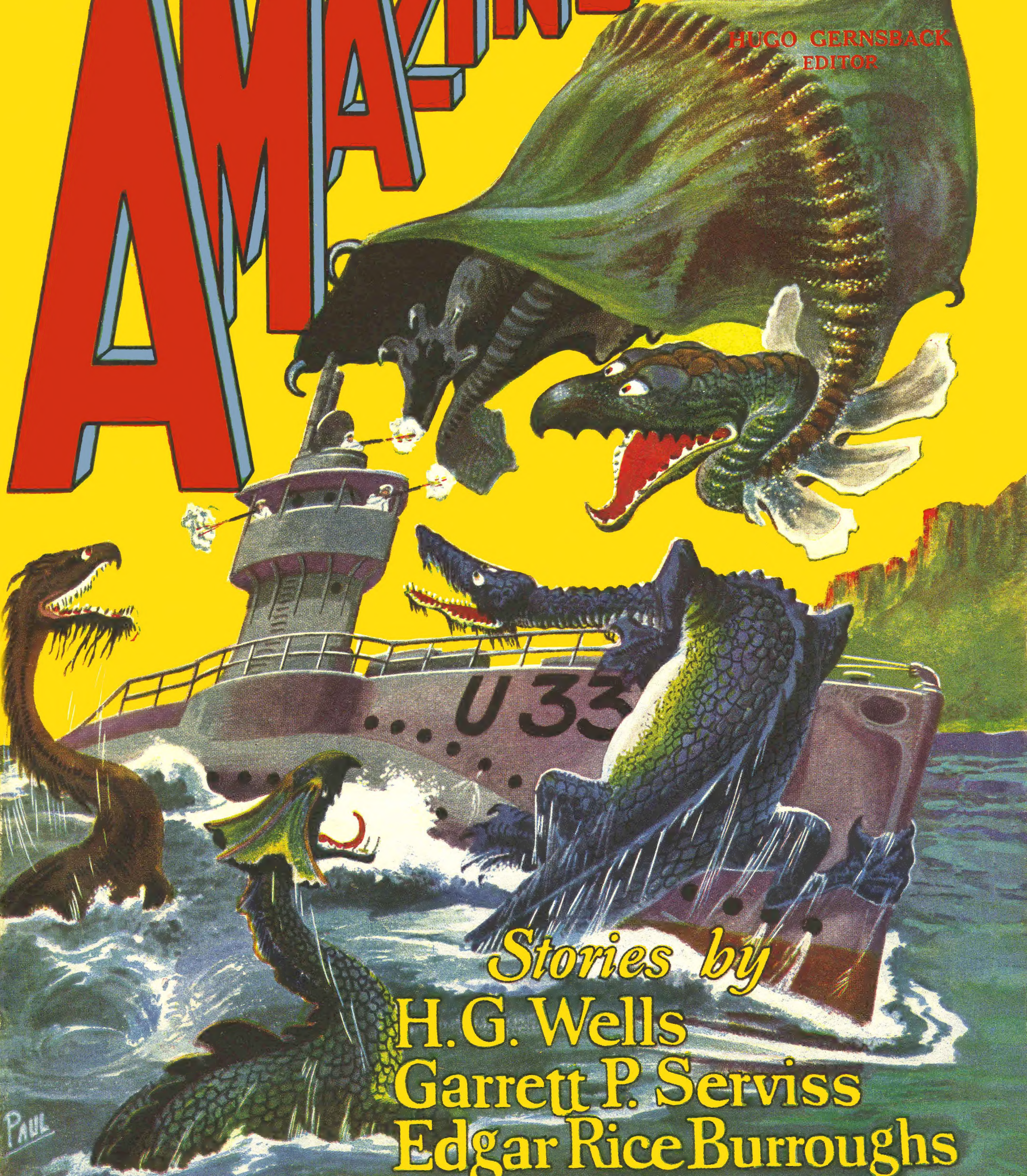

Stories by
H. G. Wells
Garrett P. Serviss
Edgar Rice Burroughs

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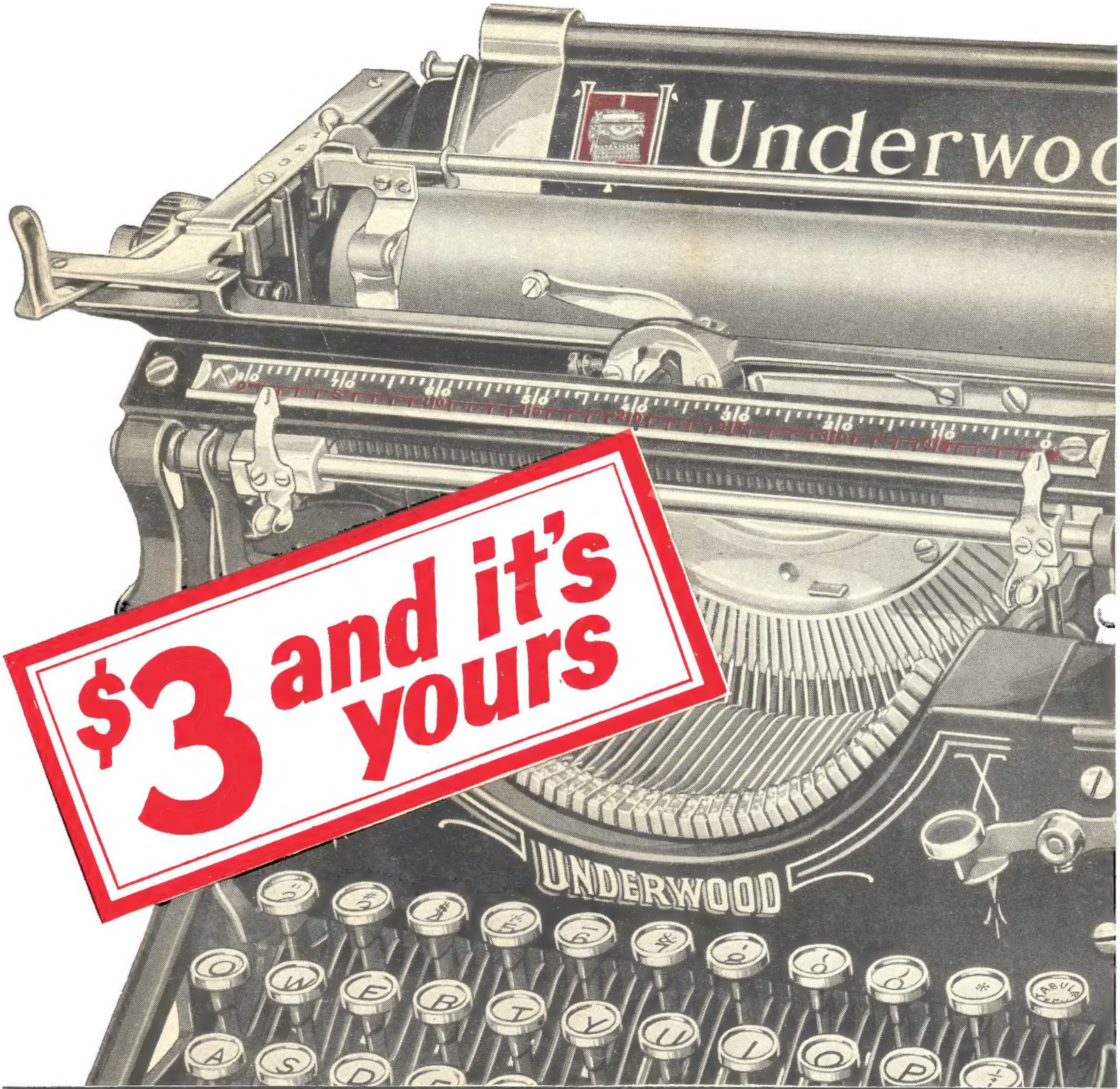

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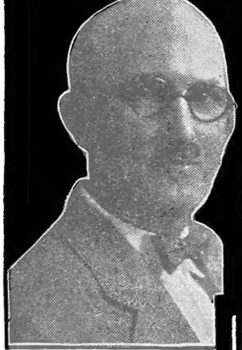

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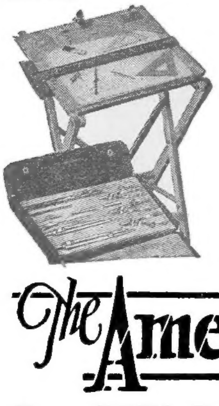

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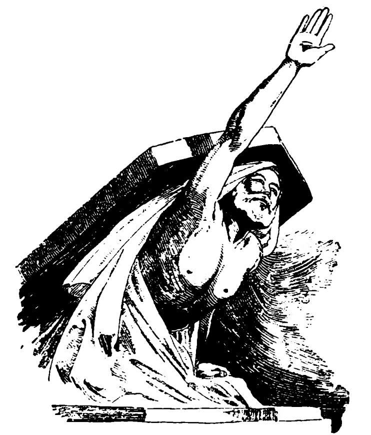

JULES VERNE'S TOMBSTONE AT AMIENS
PORTRAYING HIS IMMORTALITY

AMAZING STORIES

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Our Cover

this month illustrates a terrifying scene from "The Land that Time Forgot," by Edgar Rice Burroughs, in which a number of pre-historic monster sea and air reptiles very nearly devour the subterranean river travelers. Fortunately for them, they are able to retreat into their submarine.

In Our Next Issue:

THE GREEN SPLOTCHES, by T. S. Stribling. A perfect story for our pages must be really amazing and must be scientific. This story is, without a question, a classic of scientifiction, one of the most amazing tales it has ever been our good fortune to read.

UNDER THE KNIFE, by H. G. Wells. Here is an extraordinarily imaginative story by the great author, a story of such audacity that you will read it breathlessly from start to finish. While gruesome to an extent, it is the weird experiences of the patient that stand out rather than the gruesomeness.

THE PEOPLE OF THE PIT. By A. Merritt. Here is an exceedingly clever story about intelligences which are absolutely incomprehensible to us—with almost invisible bodies floating through the air, yet possessing strange powers. A weird story that will remain with you long after you have read it.

THE WHITE GOLD PIRATE, by Merlin Moore Taylor. An absorbing detective story about a daring criminal who baffles many authorities interested in the mysterious disappearance of enormous quantities of platinum. A scientific detective uses the X-ray, finger prints and the phonograph in a particularly interesting manner, making this a most plausible story with a true scientific aspect.

THE HAMMERING MAN, by Edwin Balmer and William B. MacHarg. Here the psychological detective with the help of his sphygmograph, lays bare a crime a generation old, thus solving many weird and mysterious problems. You will enjoy this story even more than the preceding stories by these clever authors.

THE LAND THAT TIME FORGOT, by Edgar Rice Burroughs (Part II). If you think it is impossible to maintain a high pitch of exciting interest in telling of thrilling episodes and adventures. read the second instalment of this story. The author continues to keep you on edge in a most amazing manner.

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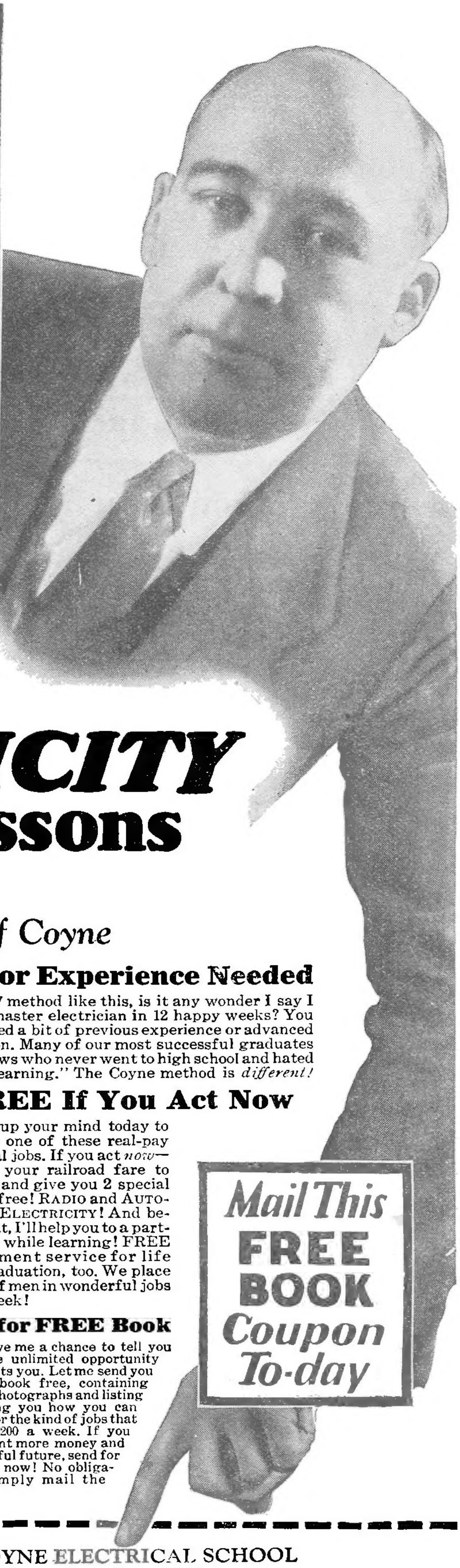

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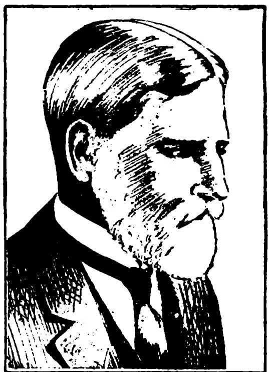

T. O'CONOR SLOANE.
A.B., A.M., LL.D., Ph.D.

Noted Instructor, Lecturer and Author. Formerly Treasurer American Chemical Society and a practical chemist with many well known achievements to his credit. Not only has Dr. Sloane taught chemistry for years but he was for many years, engaged in commercial chemistry work.

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What Some of Our Students Say of This Course:

I have not written since I received the big set. I can still say that it far exceeded my anticipations. Since I have been studying with your school I have been appointed chemist for the Scranton Coal Co. testing all the coal and ash by proximate analysis. The lessons are helping me wonderfully, and the interesting way in which they are written makes me wait patiently for each lesson.—MORLAIS COUZENS.

I wish to express my appreciation of your prompt reply to my letter and to the recommendation to the General Electric Co. I intend to start the student engineering course at the works. This is somewhat along electrical lines, but the fact that I had a recommendation from a reliable school no doubt had considerable influence in helping me to secure the job.—H. VAN BENTHUYSEN.

So far I've been more than pleased with your course and am still doing nicely. I hope to be your honor graduate this year.—J. M. NORKUS, JR.

I find your course excellent and your instruction, truthfully, the clearest and best assembled I have ever taken, and yours is the fifth one I've studied.—JAMES J. KELLY.

From the time I was having Chemistry it has never been thus explained to me as it is now. I am recommending you highly to my friends, and urging them to become members of such an organization.—CHARLES BENJAMIN.

I shall always recommend your school to my friends and let them know how simple your lessons are.—C. J. AMDAHL.

I am more than pleased. You dig right in from the start. I am going to get somewhere with this course. I am so glad that I found you.—A. A. CAMERON.

I use your lessons constantly as I find it more thorough than most text books I can secure.—WM. H. TIBBS.

Thanking you for your lessons, which I find not only clear and concise, but wonderfully interesting. I am—ROBT. H. TRAYLOR.

I received employment in the Consolidated Gas. Co. I appreciate very much the good service of the school when a recommendation was asked for.—JOS. DECKER.

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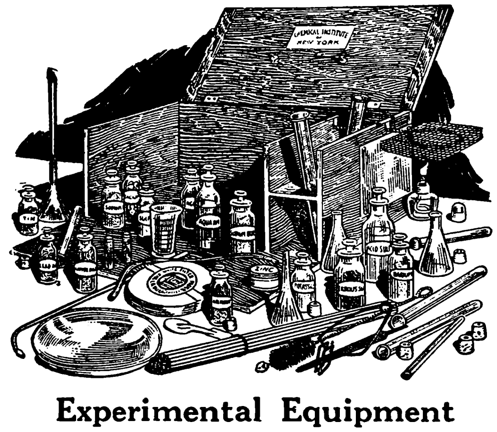

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AMAZING STORIES
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No. 11

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Extravagant Fiction Today - - - - - - - Cold Fact Tomorrow

INTERPLANETARY TRAVEL

By HUGO GERNSBACK

FOR centuries the human mind has groped with the problem of soaring into space and exploring other worlds. And even in the legendary days of Daedalus and his son, Icarus, people longed to fly like birds. Only during the last thirty years has mechanical flight been accomplished, despite the fact that many scientists and mathematicians proved conclusively, by actual figures, that it would be impossible ever to fly a heavier-than-air machine by mechanical means. We have conquered mechanical flight. Now there remains flight out into space.

Just as the heavier-than-air machine was poo-poohed by scientists of repute, space flying is being poo-poohed today by the same class of scientists. They claim that inasmuch as there is practically a vacuum between the various heavenly bodies, it is impossible to fly any machine in free space in which there is nothing to support it. Yet these same good people look at the moon, the sun, and the other planets every day, which bodies float in the selfsame free space, and seem to be getting along fairly well in spite of the arguments of the above-mentioned scientists.

Many people have no patience with our latter day scientifiction writers, who invent fantastic machines that negotiate the space between the earth and Mars and between other worlds. They scoff at these writers because they believe that the problem of mechanical flight in free space will never be solved. Just the same that problem has already been solved. True it was solved only in the laboratory, but it was solved nevertheless.

In trying to classify the various means that were suggested, we find that first we have the machine that nullifies gravitation. This, at the present time, may be said to be a flight of the imagination, simply because we haven't the slightest idea what gravitation is. For that reason all talk about nullifying gravitation is somewhat premature. No doubt in time we shall find means for negativing gravitation, but until that time such anti-gravitation machines must lie in the distant future.

The second type of machine is one that is propelled by an initial force beyond the confines of the earth and the gravitational influence of our globe. Such a machine was suggested by Jules Verne in his "A Trip to the Moon." This machine, while theoretically not impossible would be useless, because it could not be navigated. Even Jules Verne himself did not attempt to describe a way of guiding it on its course, but rather left the machine to the guidance of universal gravitation. So when it finally came back, it fell into the ocean, where it was picked up, with the travelers safe and sound.

Another great objection to a machine of this kind is that you can not hope to shoot people into space from super-cannons and not kill them by the resulting shock when the gun is fired. The Verne projectile was fitted inside with a sort of hydraulic cushion to soften the shock, but even this would be of no avail at all in actual practice. The cannon type of machine therefore must be ruled out. The airplane or airship machine is, of course, useless in outer space, for the simple reason that there is nothing to uphold it the minute it leaves the atmosphere behind. The propeller could not propel in a vacuum and accomplish any purpose whatsoever. To be sure, the future interplanetary traveling machine would most likely be equipped with propellers just the same, because when entering into the earth's or another planet's atmosphere it would probably be desirable to propel the machine the usual way. Such propellers would, of course, be made to recede into the machine, as they would be useless as soon as the space flyer entered free space.

The only machine so far proposed which stands the best chance of accomplishing the desired results is the Goddard rocket type of machine. Dr. Goddard did quite a great deal of experimenting at Clark University and actually flew a rocket in a vacuum, using a large steel pipe for his experiments. From these actual experiments valuable experience was gained and scientists today believe that the Goddard rocket can be made to fly in outer space. The Goddard rocket works by the recoil principle.

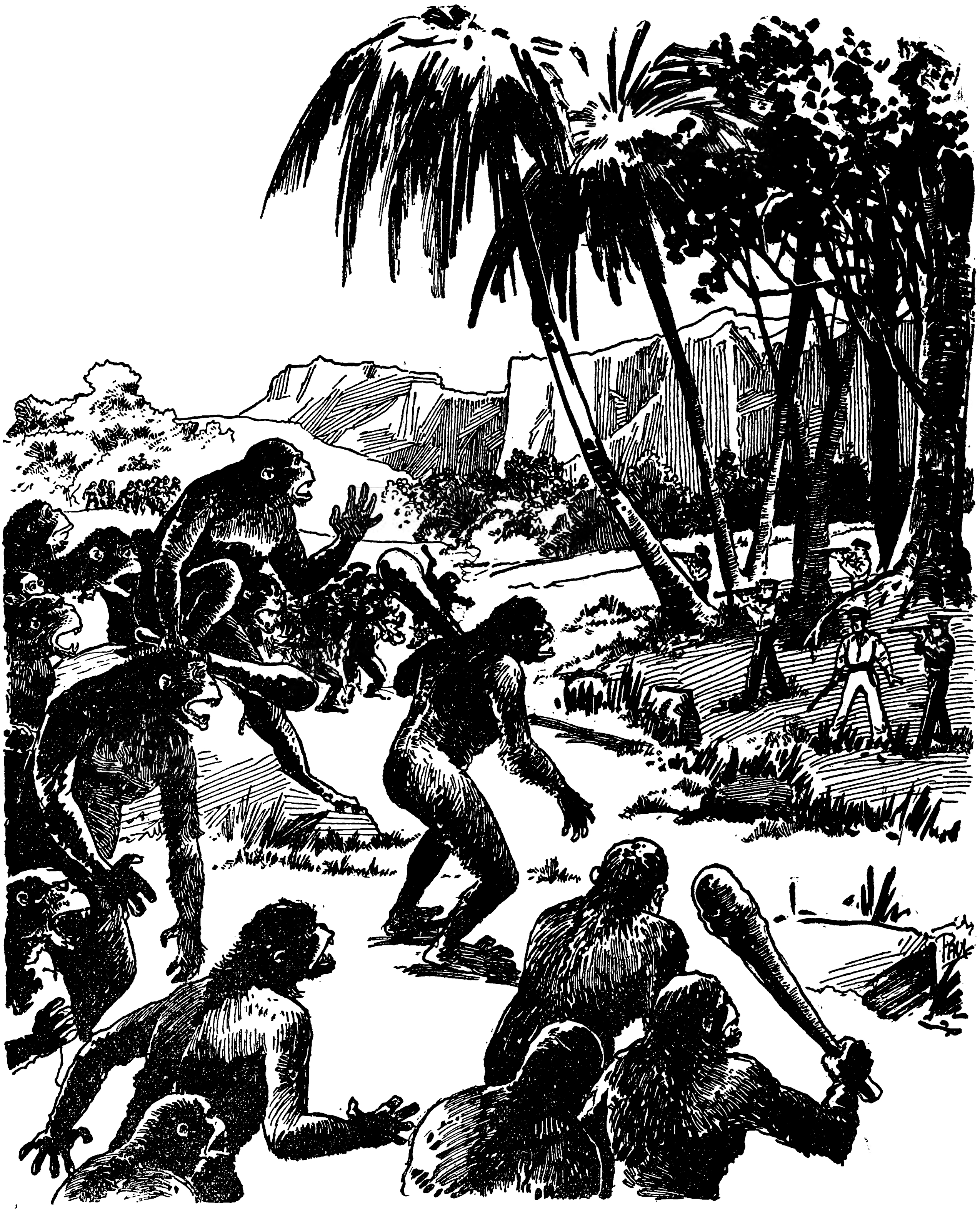
Imagine yourself suspended in free space in a vacuum. You would rest perfectly still if no other force nearby were attracting you. But you could still roam about the space by suddenly letting go both feet and kicking viciously. This would send your body in the opposite direction of the kick, although you were kicking against "nothing." This principle is well understood by scientists today and is actually made use of in the Goddard experimental rocket.

Doctor Goddard has actually volunteered to build a machine to fly from the earth to the moon, using his rocket, and while it has not yet been built, there is a very good chance that sooner or later men with vision and imagination will wish to build such a machine for scientific research purposes. The Goddard rocket comprises a head in which scientific instruments can be placed, or, if the machine is large enough, human beings could also be located. Explosive charges are set off just exactly as in an ordinary rocket, which lifts the machine off the earth and as the charges are exploded periodically the machine will fly on, gathering speed as it goes. The machine can be steered by exploding charges on different points of the rocket, which, of course, will influence the direction of the rocket, always providing that the charges are set off accurately and the steered course is correctly known.

Mr. Hugo Gernsback speaks every Monday at 9 P. M. from WRNY on various scientific and radio subjects.

The LAND that TIME FORGOT

By Edgar Rice Burroughs



. . . It consisted of upward of five hundred individuals, representing several species closely allied to man . . . some were uncannily manlike, standing almost erect . . . one or two carried heavy clubs, and the others were armed only with giant muscles and fighting fangs—nature's weapons.

CHAPTER I

IT must have been a little after three o'clock in the afternoon that it happened—the afternoon of June 3rd, 1916. It seems incredible that all that I have passed through—all those weird and terrifying experiences—should have been encompassed within so short a span as three brief months. Rather might I have experienced a cosmic cycle, with all its changes and evolutions for that which I have seen with my own eyes in this brief interval of time—things that no other mortal eye had seen before, glimpses of a world past, a world dead, a world so long dead that even in the lowest Cambrian stratum no trace of it remains. Fused with the melting inner crust, it has passed forever beyond the ken of man other than in that lost pocket of the earth whither fate has borne me and where my doom is sealed. I am here and here I must remain.

After reading this far, my interest, which already had been stimulated by the finding of the manuscript, was approaching the boiling-point. I had come to Greenland for the summer, on the advice of my physician, and was slowly being bored to extinction, as I had thoughtlessly neglected to bring sufficient reading-matter. Being an indifferent fisherman, my enthusiasm for this form of sport soon waned; yet in the absence of other forms of recreation I was now risking my life in an entirely inadequate boat off Cape Farewell at the southernmost extremity of Greenland.

EDGAR RICE BURROUGHS has written many interesting stories, but we believe, for downright originality and exciting interest, "The Land that Time Forgot" is hard to equal. There is hardly a page that does not hold your interest. Once the story gets under way, hair-raising episodes seem to tumble right over each other—they come so quickly.

Besides this, the science is excellent and no matter how strangely the tale reads, it always, somehow or other, seems to have an element of truth in it.

Is it possible for a tropical country to exist in the Polar regions? This is a question suggested by the author in this story which has been asked by a number of authors many times. It is, of course, quite possible that such a situation could come about in Polar regions if hot springs and sheltering mountains kept out the cold. In certain parts of Alaska, for instance, such conditions have been found and where the coldest weather seems to have no effect on the sheltered regions, green vegetation abounds year in and year out to the great astonishment of the traveler.

Greenland! As a descriptive appellation, it is a sorry joke—but my story has nothing to do with Greenland, nothing to do with me; so I shall get through with the one and the other as rapidly as possible.

The inadequate boat finally arrived at a precarious landing, the natives, waist-deep in the surf, assisting. I was carried ashore, and while the evening meal was being prepared, I wandered to and fro along the rocky, shattered shore. Bits of surf-harried beach clove the worn granite, or whatever the rocks of Cape Farewell may be composed of, and as I followed the ebbing tide down one of these soft stretches, I saw the thing. Were one to bump into a Bengal tiger in the ravine behind the Bimini Baths, one could be no more surprised than was I to see a perfectly good quart thermos bottle turning and twisting in the surf of Cape Farewell at the southern extremity of Greenland. I rescued it, but I was soaked above the knees doing it; and then I sat down in the sand and opened it; and in the long twilight read the manuscript, neatly written and tightly folded, which was its contents.

You have read the opening paragraph, and if you are an imaginative idiot like myself, you will want to read the rest of it; so I shall give it to you here, omitting quotation marks—which are difficult of remembrance. In two minutes you will forget me.

An Unpleasant Surprise

MY home is in Santa Monica. I am, or was, junior member of my father's firm. We are shipbuilders. Of recent years we have specialized on submarines, which we have built for Germany, England, France and the United States. I know a sub as a mother knows her baby's face, and have commanded a score of them on their trial runs. Yet my inclinations were all toward aviation. I graduated under Curtiss, and after a long siege with my father obtained his permission to try for the Lafayette Escadrille. As a stepping-stone I obtained an appointment in the American ambulance service and was on my way to France when three shrill whistles altered, in as many seconds, my entire scheme of life.

I was sitting on deck with some of the fellows who were going into the American ambulance service with me, my Airedale, Crown Prince Nobbler, asleep at my feet, when the first blast of the whistle shattered the peace and security of the ship. Ever since entering the U-boat zone we had been on the lookout for periscopes, and children that we were, bemoaning the unkind fate that was to see us safely into France on the morrow without a glimpse of the dread marauders. We were young; we craved thrills, and God knows we got them that day; yet by comparison with that through which I have since passed they were as tame as a Punch-and-Judy show.

I shall never forget the ashy faces of the passengers as they stampeded for their life-belts, though there was no panic. Nobs rose with a low growl. I rose, also, and over the ship's side I saw not two hundred yards distant the periscope of a submarine; while racing toward the liner the wake of a torpedo was distinctly visible. We were aboard an American ship — which, of course, was not armed. We were entirely defenseless; yet without warning, we were being torpedoed.

I stood rigid, spellbound, watching the white wake of the torpedo. It struck us on the starboard side almost amidships. The vessel rocked as though the sea beneath it had been uptorn by a mighty volcano. We were thrown to the decks, bruised and stunned, and then above the ship, carrying with it fragments, of steel and wood and dismembered human bodies, rose a column of water hundreds of feet into the air.

The silence which followed the detonation of the exploding torpedo was almost equally horrifying.

It lasted for perhaps two seconds, to be followed by the screams and moans of the wounded, the cursing of the men and the hoarse commands of the ship's officers. They were splendid—they and their crew. Never before had I been so proud of my nationality as I was that moment. In all the chaos which followed the torpedoing of the liner no officer or member of the crew lost his head or showed in the slightest any degree of panic or fear.

While we were attempting to lower boats, the submarine emerged and trained guns on us. The officer in command ordered us to lower our flag, but this the captain of the liner refused to do. The ship was listing frightfully to starboard, rendering the port boats useless, while half the starboard boats had been demolished by the explosion. Even while the passengers were crowding the starboard rail and scrambling into the few boats left to us, the submarine commenced shelling the ship. I saw one shell burst in a group of women and children, and then I turned my head and covered my eyes.

When I looked again to horror was added chagrin, for with the emerging of the U-boat I had recognized her as a product of our own shipyard. I knew her to a rivet. I had superintended her construction. I had sat in that very conning-tower and directed the efforts of the sweating crew below when first her prow clove the sunny summer waters of the Pacific; and now this creature of my brain and hand had turned *Frankenstein*, bent upon pursuing me to my death.

A second shell exploded upon the deck. One of the lifeboats, frightfully overcrowded, swung at a dangerous angle from its davits. A fragment of the shell shattered the bow tackle, and I saw the women and children and the men vomited into the sea beneath, while the boat dangled stern up for a moment from its single davit, and at last with increasing momentum dived into the midst of the struggling victims screaming upon the face of the waters.

I and Nobs in the Ocean

NOW I saw men spring to the rail and leap into the ocean. The deck was tilting to an impossible angle. Nobs braced himself with all four feet to keep from slipping into the scuppers and looked up into my face with a questioning whine. I stooped and stroked his head.

"Come on, boy!" I cried, and running to the side of the ship, dived headforemost over the rail. When I came up, the first thing I saw was Nobs swimming about in a bewildered sort of way a few yards from me. At sight of me his ears went flat, and his lips parted in a characteristic grin.

The submarine was withdrawing toward the north, but all the time it was shelling the open boats, three of them, loaded to the gunwales with survivors. Fortunately the small boats presented a rather poor target, which, combined with the bad marksmanship of the Germans, preserved their occupants from harm; and after a few minutes a blotch of smoke appeared upon the eastern horizon and the U-boat submerged and disappeared.

All the time the lifeboats had been pulling away from the danger of the sinking liner, and now, though I yelled at the top of my lungs, they either did not hear my appeals for help or else did not dare return to succor me. Nobs and I had gained some little distance from the ship when it rolled completely over and sank. We were caught in the suction only enough to be drawn backward a few yards, neither of us being carried beneath the surface. I glanced hurriedly about for something to which to cling. My eyes were directed toward the point at which the liner had disappeared when there came from the depths of the ocean the muffled reverberation of an explosion, and almost simultaneously a geyser of water in which were shattered lifeboats, human bodies, steam, coal, oil, and the flotsam of a liner's deck leaped high above the surface of the sea—a watery column momentarily marking the grave of another ship in this greatest cemetery of the seas.

When the turbulent waters had somewhat subsided and the sea had ceased to spew up wreckage, I ventured to swim back in search of something substantial enough to support my weight and that of Nobs as well. I had gotten well over the area of the wreck when not a half-dozen yards ahead of me a lifeboat shot bow foremost out of the ocean almost its entire length to flop down upon its keel with a mighty splash. It must have been carried far below, held to its mother ship by a single rope which finally parted to the enormous strain put upon it. In no other way can I account for its having leaped so far out of the water—a beneficent circumstance to which I doubtless owe my life, and that of another far dearer to me than my own. I say beneficent circumstance even in the face of the fact that a fate far more hideous confronts us than that which we escaped that day; for because of that circumstance I have met her whom otherwise I never should have known; I have met and loved her. At least I have had that great happiness in life; nor can Caspak, with all her horrors, expunge that which has been.

So for the thousandth time I thank the strange fate which sent that lifeboat hurtling upward from the green pit of destruction to which it had been dragged—sent it far up above the surface, emptying its water as it rose above the waves, and dropping it upon the surface of the sea, buoyant and safe.

It did not take me long to clamber over its side and drag Nobs in to comparative safety, and then I glanced around upon the scene of death and desolation which surrounded us. The sea was littered with wreckage among which floated the pitiful forms of women and children, buoyed up by their useless lifebelts. Some were torn and mangled; others lay rolling quietly to the motion of the sea, their countenances composed and peaceful; others were set in hideous lines of agony or horror. Close to the boat's side floated the figure of a girl. Her face was turned upward, held above the surface by her lifebelt, and was framed in a floating mass of dark and waving hair. She was very beautiful. I had never looked upon such perfect features, such a divine molding which was at the same time human—intensely human. It was a face filled with character and strength and femininity—the face of one who was created to love and to be loved. The cheeks were flushed to the hue of life and health and vitality, and yet she lay there upon the bosom of the sea, dead. I felt something rise in my throat as I looked down upon that radiant vision, and I swore that I should live to avenge her murder.

Missing

AND then I let my eyes drop once more to the face upon the water, and what I saw nearly tumbled me backward into the sea, for the eyes in the dead face had opened; the lips had parted; and one hand was raised toward me in a mute appeal for succor. She lived! She was not dead! I leaned over the boat's side and drew her quickly in to the comparative safety which God had given me. I removed her life-belt and my soggy coat and made a pillow for her head. I chafed her hands and arms and feet. I worked over her for an hour, and at last I was rewarded by a deep sigh, and again those great eyes opened and looked into mine.

At that I was all embarrassment. I have never been a ladies' man; at Leland Stanford I was the butt of the class because of my hopeless imbecility in the presence of a pretty girl; but the men liked me, nevertheless. I was rubbing one of her hands when she opened her eyes, and I dropped it as though it were a red-hot rivet. Those eyes took me in slowly from head to foot; then they wandered slowly around the horizon marked by the rising and falling gunwales of the lifeboat. They looked at Nobs and softened, and then came back to me, filled with questioning.

"I—I—" I stammered, moving away and stumbling over the next thwart. The vision smiled wanly.

"Aye-aye, sir!" she replied faintly, and again her lids drooped, and her long lashes swept the firm, fair texture of her skin.

"I hope that you are feeling better," I finally managed to say.

"Do you know," she said after a moment of silence, "I have been awake for a long time! But I did not dare open my eyes. I thought I must be dead, and I was afraid to look, for fear that I should see nothing but blackness all about me. I am afraid to die! Tell me what happened after the ship went down. I remember all that happened before—oh, but I wish that I might forget it!" A sob broke her voice. "The beasts!" she went on after a moment. "And to think that I was to have married one of them—a lieutenant in the German navy."

Presently she resumed as though she had not ceased speaking. "I went down and down and down. I thought I should never cease to sink. I felt no particular distress until I suddenly started upward at ever-increasing velocity; then my lungs seemed about to burst, and I must have lost consciousness, for I remember nothing more until I opened my eyes after listening to a torrent of invective against Germany and Germans. Tell me, please, all that happened after the ship sank."

I told her, then, as well as I could, all that I had seen—the submarine shelling the open boats and all the rest of it. She thought it marvelous that we should have been spared in so providential a manner, and I had a pretty speech upon my tongue's end, but lacked the nerve to deliver it. Nobs had come over and nosed his muzzle into her lap, and she stroked his ugly face, and at last she leaned over and put her cheek against his forehead. I have always admired Nobs; but this was the first time that it had ever occurred to me that I might wish to be Nobs. I wondered how he would take it, for he is as unused to women as I. But he took to it as a duck takes to water. What I lack of being a ladies' man Nobs certainly makes up for as a ladies' dog. The old scalawag just closed his eyes and put on one of the softest "sugar-wouldn't-melt-in-my-mouth" expressions you ever saw and stood there taking it and asking for more. It made me jealous.

"You seem fond of dogs," I said.

"I am fond of this dog," she replied.

Whether she meant anything personal in that reply I did not know; but I took it as personal and it made me feel mighty good.

As we drifted about upon that vast expanse of loneliness it is not strange that we should quickly become well acquainted. Constantly we scanned the horizon for signs of smoke, venturing guesses as to our chances of rescue; but darkness settled, and the black night enveloped us without ever the sight of a speck upon the waters.

We were thirsty, hungry, uncomfortable, and cold. Our wet garments had dried but little and I knew that the girl must be in grave danger from the exposure to a night of cold and wet upon the water in an open boat, without sufficient clothing or any food. I had managed to bail all the water out of the boat with cupped hands, ending by mopping the balance up with my handkerchief—a slow and backbreaking procedure; thus I had made a comparatively dry place for the girl to lie down low in the bottom of the boat, where the sides would protect her from the night wind, and when at last she did so, almost overcome as she was by weakness and fatigue, I threw my wet coat over her further to thwart the chill. But it was of no avail; as I sat watching her, the moonlight marking out the graceful curves of her slender young body, I saw her shiver.

"Isn't there something I can do?" I asked. "You can't lie there chilled through all night. Can't you suggest something?"

She shook her head. "We must grin and bear it," she replied after a moment.

Nobbler came and lay down on the thwart beside me, his back against my leg, and I sat staring in dumb misery at the girl, knowing in my heart of hearts that she might die before morning came, for what with the shock and the exposure, she had already gone through enough to kill almost any woman. And as I gazed down at her, so small and delicate and helpless, there was born slowly within my breast a new emotion. It had never been there before; now it will never cease to be there. It made me almost frantic in my desire to find some way to keep warm the cooling life-blood in her veins. I was cold myself, though I had almost forgotten it until Nobbler moved and I felt a new sensation of cold along my leg against which he had lain, and suddenly realized that in that one spot I had been warm. Like a great light came the understanding of a means to warm the girl. Immediately I knelt beside her to put my scheme into practice when suddenly I was overwhelmed with embarrassment. Would she permit it, even if I could muster the courage to suggest it? Then I saw her frame convulse shudderingly, her muscles reacting to her rapidly lowering temperature, and casting prudery to the winds, I threw myself down beside her and took her in my arms, pressing her body close to mine.

She drew away suddenly, voicing a little cry of fright, and tried to push me from her.

"Forgive me," I managed to stammer. "It is the only way. You will die of exposure if you are not warmed, and Nobs and I are the only means we can command for furnishing warmth." And I held her tightly while I called Nobs and bade him lie down at her back. The girl didn't struggle any more when she learned my purpose; but she gave two or three little gasps, and then she began to cry softly, burying her face on my arm, and thus she fell asleep.

CHAPTER II.

TOWARD morning, I must have dozed, though it seemed to me at the time that I had lain awake for days, instead of hours. When I finally opened my eyes, it was daylight, and the girl's hair was in my face, and she was breathing normally. I thanked God for that. She had turned her head during the night so that as I opened my eyes I saw her face not an inch from mine, my lips almost touching hers.

It was Nobs who finally awoke her. He got up, stretched, turned around a few times and lay down again, and the girl opened her eyes and looked into mine. Hers went very wide at first, and then slowly comprehension came to her, and she smiled.

"You have been very good to me," she said, as I helped her to rise, though if the truth were known I was more in need of assistance than she; the circulation all along my left side seemed to be paralyzed entirely. "You have been very good to me." And that was the only mention she ever made of it; yet I know that she was thankful and that only reserve prevented her from referring to what, to say the least, was an embarrassing situation, however unavoidable.

Shortly after daylight we saw smoke apparently from a vessel coming straight toward us, and after a time we made out the squat lines of a tug—one of those fearless exponents of England's supremacy of the sea that tows sailing ships into French and English ports. I stood up on a thwart and waved my soggy coat above my head. Nobs stood upon another and barked. The girl sat at my feet straining her eyes toward the deck of the oncoming boat. "They see us," she said at last. "There is a man answering your signal." She was right. A lump came into my throat—for her sake rather than for mine. She was saved, and none too soon. She could not have lived through another night upon the Channel; she might not have lived through the coming day.

The tug came close beside us, and a man on deck threw us a rope. Willing hands dragged us to the deck, Nobs scrambling nimbly aboard without assistance. The rough men were gentle as mothers with the girl. Plying us both with questions they hustled her to the captain's cabin and me to the boiler-room. They told the girl to take off her wet clothes and throw them outside the door that they might be dried, and then to slip into the captain's bunk and get warm. They didn't have to tell me to strip after I once got into the warmth of the boiler-room. In a jiffy, my clothes hung about where they might dry most quickly, and I myself was absorbing, through every pore, the welcome heat of the stifling compartment. They brought us hot soup and coffee, and then those who were not on duty sat around and helped me damn the Kaiser and his brood.

As soon as our clothes were dry, they bade us don them, as the chances were always more than fair in those waters that we should run into trouble with the enemy, as I was only too well aware. What with the warmth and the feeling of safety for the girl, and the knowledge that a little rest and food would quickly overcome the effects of her experiences of the past dismal hours, I was feeling more content than I had felt ever since those three whistle-blasts had shattered the peace of my world the previous afternoon.

But peace upon the Channel has been but a transitory thing since August, 1914. It proved itself such that morning, for I had scarce gotten into my dry clothes and taken the girl's apparel to the captain's cabin when an order was shouted down into the engine-room for full speed ahead, and an instant later I heard the dull boom of a gun. In a moment I was up on deck to see an enemy submarine about two hundred yards off our port bow. She had signaled us to stop, and our skipper had ignored the order; but now she had her gun trained on us, and the second shot grazed the cabin, warning the belligerent tug-captain that it was time to obey. Once again an order went down to the engine-room, and the tug reduced speed. The U-boat ceased firing and ordered the tug to come about and approach. Our momentum had carried us a little beyond the enemy craft, but we were turning now on the arc of a circle that would bring us alongside her. As I stood watching the maneuver and wondering what was to become of us, I felt something touch my elbow and turned to see the girl standing at my side. She looked up into my face with a rueful expression. "They seem bent on our destruction," she said, "and it looks like the same boat that sank us yesterday."

"It is," I replied. "I know her well. I helped design her and took her out on her first run."

A Sea Fight with a U-boat

THE girl drew back from me with a little exclamation of surprise and disappointment. "I thought you were an American," she said. "I had no idea you were a— a——"

"Nor am I," I replied. "Americans have been building submarines for all nations for many years. I wish, though, that we had gone bankrupt, my father and I, before we turned out that *Frankenstein* of a thing."

We were approaching the U-boat at half-speed now, and I could almost distinguish the features of the men upon her deck. A sailor stepped to my side and slipped something hard and cold into my hand. I did not have to look at it to know that it was a heavy pistol. "Tyke 'er an' use 'er," was all he said.

Our bow was pointed straight toward the U-boat now as I heard word passed to the engine-room for full speed ahead. Instantly I grasped the brazen effrontery of the plucky English skipper—he was going to ram five hundred tons of U-boat in the face of her trained gun. I could scarce repress a cheer. At first the Germans didn't seem to grasp his intention. Evidently they thought they were witnessing an exhibition of poor seamanship, and they yelled their warning to the tug to reduce speed and throw the helm hard to port.

We were within fifty feet of them when they awakened to the intentional menace of our maneuver. Their gun crew was off its guard; but they sprang to their piece now and sent a futile shell above our heads. Nobs leaped about and barked furiously. "Let 'em have it!" commanded the tug-captain, and instantly revolvers and rifles poured bullets upon the deck of the submersible. Two of the gun-crew went down; the other trained their piece at the water-line of the oncoming tug. The balance of those on deck replied to our small-arms fire, directing their efforts toward the man at our wheel.

I hastily pushed the girl down the companionway leading to the engine-room, and than I raised my pistol and fired my first shot at a German. What happened in the next few seconds happened so quickly that details are rather blurred in my memory. I saw the helmsman lunge forward upon the wheel, pulling the helm around so that the tug sheered off quickly from her course, and I recall realizing that all our efforts were in vain, because of all the men aboard, Fate had decreed that this one should fall first to an enemy bullet. I saw the depleted gun-crew on the submarine fire their piece and I felt the shock of impact and heard the loud explosion as the shell struck and exploded in our bows.

I saw and realized these things even as I was leaping into the pilot-house and grasping the wheel, standing astride the dead body of the helmsman. With all my strength I threw the helm to starboard; but it was too late to effect the purpose of our skipper. The best I did was to scrape alongside the sub. I heard some one shriek an order into the engine-room; the boat shuddered and trembled to the sudden reversing of the engines, and our speed quickly lessened. Then I saw what that madman of a skipper planned since his first scheme had gone wrong.

With a loud-yelled command, he leaped to the slippery deck of the submersible, and at his heels came his hardy crew. I sprang from the pilot-house and followed, not to be left out in the cold when it came to strafing the enemy. From the engine-room companionway came the engineer and stokers, and together we leaped after the balance of the crew and into the hand-to-hand fight that was covering the wet deck with red blood. Beside me came Nobs, silent now, and grim. Germans were emerging from the open hatch to take part in the battle on deck. At first the pistols cracked amidst the cursing of the men and the loud commands of the commander and his junior; but presently we were too indiscriminately mixed to make it safe to use our firearms, and the battle resolved itself into a hand-to-hand struggle for possession of the deck.

The sole aim of each of us was to hurl one of the opposing force into the sea. I shall never forget the hideous expression upon the face of the great Prussian with whom chance confronted me. He lowered his head and rushed at me, bellowing like a bull. With a quick side-step and ducking low beneath his outstretched arms, I eluded him; and as he turned to come back at me, I landed a blow upon his chin which sent him spinning toward the edge of the deck. I saw his wild endeavors to regain his equilibrium; I saw him reel drunkenly for an instant upon the brink of eternity and then, with a loud scream, slip into the sea. At the same instant a pair of giant arms encircled me from behind and lifted me entirely off my feet. Kick and squirm as I would, I could neither turn toward my antagonist nor free myself from his maniacal grasp. Relentlessly he was rushing me toward the side of the vessel and death. There was none to stay him, for each of my companions was more than occupied by from one to three of the enemy. For an instant I was fearful for myself, and then I saw that which filled me with a far greater terror for another.

The Survivors of the Fight.

MY opponent was bearing me toward the side of the submarine against which the tug still was pounding. That I should be ground to death between the two was lost upon me as I saw the girl standing alone upon the tug's deck, as I saw the stern high in air and the bow rapidly settling for the final dive, as I saw death from which I could not save her clutching at the skirts of the woman I now knew all too well that I loved.

I had perhaps the fraction of a second longer to live when I heard an angry growl behind us mingle with a cry of pain and rage from the giant who carried me. Instantly he went backward to the deck, and as he did so he threw his arms outwards to save himself, freeing me. I fell heavily upon him, but was upon my feet in the instant. As I arose, I cast a single glance at my opponent. Never again would he menace me or another, for Nobs' great jaws had closed upon his throat. Then I sprang toward the edge of the deck closest to the girl upon the sinking tug.

"Jump!" I cried. "Jump!" And I held out my arms to her. Instantly as though with implicit confidence in my ability to save her, she leaped over the side of the tug onto the sloping, slippery side of the U-boat. I reached far over to seize her hand. At the same instant the tug pointed its stern straight toward the sky and plunged out of sight. My hand missed the girl's by a fraction of an inch, and I saw her slip into the sea; but scarce had she touched the water when I was in after her.

The sinking tug drew us far below the surface; but I had seized her the moment I struck the water, and so we went down together, and together we came up—a few yards from the U-boat. The first thing I heard was Nobs barking furiously; evidently he had missed me and was searching. A single glance at the vessel's deck assured me that the battle was over and that we had been victorious, for I saw our survivors holding a handful of the enemy at pistol points while one by one the rest of the crew was coming out of the craft's interior and lining up on deck with the other prisoners.

As I swam toward the submarine with the girl, Nobs' persistent barking attracted the attention of some of the tug's crew, so that as soon as we reached the side there were hands to help us aboard. I asked the girl if she was hurt, but she assured me that she was none the worse for this second wetting; nor did she seem to suffer any from shock. I was to learn for myself that this slender and seemingly delicate creature possessed the heart and courage of a warrior.

As we joined our own party, I found the tug's mate checking up our survivors. There were ten of us left, not including the girl. Our brave skipper was missing, as were eight others. There had been nineteen of us in the attacking party and we had accounted in one way and another during the battle for sixteen Germans and had taken nine prisoners, including the commander. His lieutenant had been killed.

"Not a bad day's work," said Bradley, the mate, when he had completed his roll. "Only losing the skipper," he added, "was the worst. He was a fine man, a fine man."

Olson—who in spite of his name was Irish, and in spite of his not being Scotch had been the tug's engineer—was standing with Bradley and me. "Yis," he agreed, "it's a day's wor-rk we're after doin', but what are we goin' to be doin' wid it now we got it?"

"We'll run her into the nearest English port," said Bradley, "and then we'll all go ashore and get our V. C.'s," he concluded, laughing.

"How you goin' to run her?" queried Olson. "You can't trust these Dutchmen."

Bradley scratched his head. "I guess you're right," he admitted. "And I don't know the first thing about a sub."

"I do," I assured him. "I know more about this particular sub than the officer who commanded her."

Both men looked at me in astonishment, and then I had to explain all over again as I had explained to the girl. Bradley and Olson were delighted. Immediately I was put in command, and the first thing I did was to go below with Olson and inspect the craft thoroughly for hidden sailors and damaged machinery. There were no Germans below, and everything was intact and in ship-shape working order. I then ordered all hands below except one man who was to act as lookout. Questioning the Germans, I found that all except the commander were willing to resume their posts and aid in bringing the vessel into an English port. I believe that they were relieved at the prospect of being detained at a comfortable English prison-camp for the duration of the war after the perils and privations through which they had passed. The officer, however, assured me that he would never be a party to the capture of his vessel.

There was, therefore, nothing to do but put the man in irons. As we were preparing to put this decision into force, the girl descended from the deck. It was the first time that she or the German officer had seen each other's faces since we had boarded the U-boat. I was assisting the girl down the ladder and still retained a hold upon her arm—possibly after such support was no longer necessary—when she turned and looked squarely into the face of the German. Each voiced a sudden exclamation of surprise and dismay.

"Lys!" he cried, and took a step toward her.

The girl's eyes went wide, and slowly filled with a great horror, as she shrank back. Then her slender figure stiffened to the erectness of a soldier, and with chin in air and without a word she turned her back upon the officer.

"Take him away," I directed the two men who guarded him, "and put him in irons."

A Strange Revelation

WHEN he had gone, the girl raised her eyes to mine. "He is the German of whom I spoke," she said. "He is Baron von Schoenvorts."

I merely inclined my head. She had loved him! I wondered if in her heart of hearts she did not love him yet. Immediately I became insanely jealous. I hated Baron Friedrich von Schoenvorts with such utter intensity that the emotion thrilled me with a species of exaltation.

But I didn't have much chance to enjoy my hatred then, for almost immediately the lookout poked his face over the hatchway and bawled down that there was smoke on the horizon, dead ahead. Immediately I went on deck to investigate, and Bradley came with me.

"If she's friendly," he said, "we'll speak to her. If she's not, we'll sink her—eh, captain?"

"Yes, lieutenant," I replied, and it was his turn to smile.

We hoisted the Union Jack and remained on deck, asking Bradley to go below and assign to each member of the crew his duty, placing one Englishman with a pistol beside each German.

"Half speed ahead," I commanded.

More rapidly now we closed the distance between ourselves and the stranger, until I could plainly see the red ensign of the British merchant marine. My heart swelled with pride at the thought that presently admiring British tars would be congratulating us upon our notable capture; and just about then the merchant steamer must have sighted us, for she veered suddenly toward the north, and a moment later dense volumes of smoke issued from her funnels. Then, steering a zigzag course, she fled from us as though we had been the bubonic plague. I altered the course of the submarine and set off in chase; but the steamer was faster than we, and soon left us hopelessly astern.

With a rueful smile I directed that our original course be resumed, and once again we set off toward merry England. That was three months ago, and we haven't arrived yet; nor is there any likelihood that we ever shall.

The steamer we had just sighted must have wirelessed a warning, for it wasn't half an hour before we saw more smoke on the horizon, and this time the vessel flew the white ensign of the Royal Navy and carried guns. She didn't veer to the north or anywhere else, but bore down on us rapidly. I was just preparing to signal her, when a flame flashed from her bows, and an instant later the water in front of us was thrown high by the explosion of a shell.

Bradley had come on deck and was standing beside me. "About one more of those, and she'll have our range," he said. "She doesn't seem to take much stock in our Union Jack."

A second shell passed over us, and then I gave the command to change our direction, at the same time directing Bradley to go below and give the order to submerge. I passed Nobs down to him, and following, saw to the closing and fastening of the hatch.

It seemed to me that the diving-tanks never had filled so slowly. We heard a loud explosion apparently directly above us! the craft trembled to the shock, which threw us all to the deck. I expected momentarily to feel the deluge of inrushing water, but none came. Instead we continued to submerge until the manometer registered forty feet and then I knew that we were safe. Safe! I almost smiled. I had relieved Olson, who had remained in the tower at my direction, having been a member of one of the early British submarine crews, and therefore having some knowledge of the business. Bradley was at my side. He looked at me quizzically.

"What the devil are we to do?" he asked. "The merchantman will flee us; the war-vessel will destroy us; neither will believe our colors or give us a chance to explain. We will meet even a worse reception if we go nosing around a British port—mines, nets and all of it. We can't do it."

"Let's try it again when this fellow has lost the scent," I urged. "There must be a ship that will believe us."

And try it again we did, only to be almost rammed by a huge freighter. Later we were fired upon by a destroyer, and two merchantmen turned and fled at our approach. For two days we cruised up and down the Channel trying to tell some one, who would listen, that we were friends; but no one would listen. After our encounter with the first warship I had given instructions that a wireless message be sent out explaining our predicament; but to my chagrin I discovered that both sending and receiving instruments had disappeared.

"There is only one place you can go," van Schoenvorts sent word to me, "and that is Kiel. You can't land anywhere else in these waters. If you wish, I will take you there, and I can promise that you will be treated well."

"There is another place we can go," I sent back my reply, "and we will before we'll go to Germany. That place is hell."

CHAPTER III

THOSE were anxious days, during which I had but little opportunity to associate with Lys. I had given her the commander's room, Bradley and I taking that of the deck-officer, while Olson and two of our best men occupied the room ordinarily allotted to petty officers. I made Nobs' bed down in Lys' room, for I knew she would feel less alone.

Nothing of much moment occurred for a while after we left British waters behind us. We ran steadily along upon the surface, making good time. The first two boats we sighted made off as fast as they could go; and the third, a huge freighter, fired on us, forcing us to submerge. It was after this that our troubles commenced. One of the Diesel engines broke down in the morning, and while we were working on it, the forward port diving-tank commenced to fill. I was on deck at the time and noted the gradual list. Guessing at once what was happening, I leaped for the hatch and slamming it closed above my head, dropped to the centrale. By this time the craft was going down by the head with a most unpleasant list to port, and I didn't wait to transmit orders to some one else but ran as fast as I could for the valve that let the sea into the forward port diving-tank. It was wide open. To close it and to have the pump started that would empty it was the work of but a minute; but we had had a close call.

I knew that the valve had never opened itself. Some one had opened it—some one who was willing to die himself if he might at the same time encompass the death of all of us.

After that I kept a guard pacing the length of the narrow craft. We worked upon the engine all that day and night and half the following day. Most of the time we drifted idly upon the surface, but toward noon we sighted smoke due west, and having found that only enemies inhabited the world for us, I ordered that the other engine be started so that we could move out of the path of the oncoming steamer. The moment the engine started to turn, however, there was a grinding sound of tortured steel, and when it had been stopped, we found that some one had placed a cold-chisel in one of the gears.

It was another two days before we were ready to limp along, half repaired. The night before the repairs were completed, the sentry came to my room and awoke me. He was rather an intelligent fellow of the English middle class, in whom I had much confidence.

"Well, Wilson," I asked, "what's the matter now?"

He raised his finger to his lips and came closer to me. "I think I've found out who's doin' the mischief," he whispered, and nodded his head toward the girl's room. "I seen her sneakin' from the crew's room just now," he went on. "She's been in gassin' wit' the German commander. Benson seen her in there las' night, too, but he never said nothin' till I goes on watch tonight. Benson's sorter slow in the hed, an' he never puts two an' two together till some one else has made four out of it."

If the man had come in and struck me suddenly in the face, I could have been no more surprised.

"Say nothing of this to anyone," I ordered. "Keep your eyes and ears open and report every suspicious thing you see or hear."

The man saluted and left me; but for an hour or more I tossed, restless, upon my hard bunk in an agony of jealousy and fear. Finally I fell into a troubled sleep. It was daylight when I awoke. We were running along slowly upon the surface, my orders having been to proceed at half speed until we could take an observation and determine our position. The sky had been overcast all the previous day and all night; but as I stepped into the centrale that morning I was delighted to see that the sun was again shining. The spirits of the men seemed improved; everything seemed propitious. I forgot at once the cruel misgiving of the past night as I set to work to take my observations.

What a blow awaited me! The sextant and chronometer had both been broken beyond repair, and they had been broken just this very night. The damage had been done the night that Lys had been seen talking with von Schoenvorts. I think that it was this last thought which hurt me the worst. I could look the other disaster in the face with equanimity; but the bald fact that Lys might be a traitor appalled me.

Treachery of the Defeated

I CALLED Bradley and Olson on deck and told them what had happened, but for the life of me I couldn't bring myself to repeat what Wilson had reported to me the previous night. In fact, as I had given the matter thought, it seemed incredible that the girl could have passed through my room, in which Bradley and I slept, and that occupied by Olson and two others, and then carried on a conversation in the crew's room, in which von Schoenvorts was kept, without having been seen by more than a single man.

Bradley shook his head. "I can't make it out," he said. "One of those men must be pretty clever to put it over on us like this; but they haven't harmed us as much as they think; there are still the extra instruments."

It was my turn now to shake a doleful head. "There are no extra instruments," I told them. "They too have disappeared as did the wireless apparatus."

Both men looked at me in amazement. "We still have the compass and the sun," said Olson. "They may be after getting the compass some night; but they's too many of us around in the daytime fer 'em to get the sun."

It was then that one of the men stuck his head up through the hatchway and seeing me, asked permission to come on deck and get a breath of fresh air. I recognized him as Benson, the man who, Wilson had said, reported having seen Lys with von Schoenvorts two nights before. I motioned him on deck and then called him to one side, asking if he had seen anything out of the way or unusual during his trick on watch the night before. The fellow scratched his head a moment and said "No," and then as though it was an afterthought, he told me that he had seen the girl in the crew's room about midnight talking with the German commander, but as there hadn't seemed to him to be any harm in that, he hadn't said anything about it. Telling him never to fail to report to me anything in the slightest out of the ordinary routine of the ship, I dismissed him.

Several of the other men now asked permission to come on deck, and soon all but those actually engaged in some necessary duty were standing around smoking and talking, all in the best of spirits. I took advantage of the presence of the men upon the deck to go below for my breakfast, which the cook was already preparing upon the electric stove. Lys, followed by Nobs, appeared as I entered the centrale. She met me with a pleasant "Good morning!" which I am afraid I replied to in a tone that was rather constrained and surly.

"Will you breakfast with me?" I suddenly asked the girl, determined to commence a probe of my own along the lines which duty demanded.

She nodded a sweet acceptance of my invitation, and together we sat down at the little table of the officers' mess.

"You slept well last night?" I asked.

"All night," she replied. "I am a splendid sleeper."

Her manner was so straightforward and honest that I could not bring myself to believe in her duplicity; yet—thinking to surprise her into a betrayal of her guilt, I blurted out: "The chronometer and sextant were both destroyed last night; there is a traitor among us." But she never turned a hair by way of evidencing guilty knowledge of the catastrophe.

"Who could it have been?" she cried. "The Germans would be crazy to do it, for their lives are as much at stake as ours."

"Men are often glad to die for an ideal—an ideal of patriotism, perhaps," I replied; "and a willingness to martyr themselves includes a willingness to sacrifice others, even those who love them. Women are much the same, except that they will go even further than most men—they will sacrifice everything, even honor, for love."

I watched her face carefully as I spoke, and I thought that I detected a very faint flush mounting her cheek. Seeing an opening and an advantage I sought to follow it up.

"Take von Schoenvorts, for instance," I continued; "he would doubtless be glad to die and take us all with him, could he prevent in no other way the falling of his vessel into enemy hands. He would sacrifice anyone, even you; and if you still love him, you might be his ready tool. Do you understand me?"

She looked at me in wide-eyed consternation for a moment, and then she went very white and rose from her seat. "I do," she replied, and turning her back upon me, she walked quickly toward her room. I started to follow, for even believing what I did, I was sorry that I had hurt her. I reached the door to the crew's room just behind her and in time to see van Schoenvorts lean forward and whisper something to her as she passed; but she must have guessed that she might be watched, for she passed on.

The Submarine on her Way to a Harbor

THAT afternoon it clouded over; the wind mounted to a gale, and the sea rose until the craft was wallowing and rolling frightfully. Nearly everyone aboard was sick; the air became foul and oppressive. For twenty-four hours I did not leave my post in the conning tower, as both Olson and Bradley were sick. Finally I found that I must get a little rest, and so I looked about for some one to relieve me. Benson volunteered. He had not been sick, and assured me that he was a former R. N. man and had been detailed for submarine duty for over two years. I was glad that it was he, for I had considerable confidence in his loyalty, and so it was with a feeling of security that I went below and lay down.

I slept twelve hours straight, and when I awoke and discovered what I had done, I lost no time in getting to the conning-tower. There sat Benson as wide awake as could be, and the compass showed that we were heading straight into the west. The storm was still raging; nor did it abate its fury until the fourth day. We were all pretty well done up and looked forward to the time when we could go on deck and fill our lungs with fresh air. During the whole four days I had not seen the girl, as she evidently kept closely to her room; and during this time no untoward incident had occurred aboard the boat—a fact which seemed to strengthen the web of circumstantial evidence about her.

For six more days after the storm lessened we still had fairly rough weather; nor did the sun once show himself during all that time. For the season—it was now the middle of June—the storm was unusual; but being from southern California, I was accustomed to unusual weather. In fact, I have discovered that the world over, unusual weather prevails at all times of the year.

We kept steadily to our westward course, and as the *U-33* was one of the fastest submersibles we had ever turned out, I knew that we must be pretty close to the North American coast. What puzzled me most was the fact that for six days we had not sighted a single ship. It seemed remarkable that we could cross the Atlantic almost to the coast of the American continent without glimpsing smoke or sail, and at last I came to the conclusion that we were way off our course, but whether to the north or to the south of it I could not determine.

On the seventh day the sea lay comparatively calm at early dawn. There was a slight haze upon the ocean which had cut off our view of the stars; but conditions all pointed toward a clear morrow, and I was on deck anxiously awaiting the rising of the sun. My eyes were glued upon the impenetrable mist astern, for there in the east I should see the first glow of the rising sun that would assure me we were still upon the right course. Gradually the heavens lightened; but astern I could see no intenser glow that would indicate the rising sun behind the mist. Bradley was standing at my side. Presently he touched my arm.

"Look, captain," he said, and pointed south.

I looked and gasped, for there directly to port I saw outlined through the haze the red top of the rising sun. Hurrying to the tower, I looked at the compass. It showed that we were holding steadily upon our westward course. Either the sun was rising in the south, or the compass had been tampered with. The conclusion was obvious.

I went back to Bradley and told him what I had discovered. "And," I concluded, "we can't make another five hundred knots without oil; our provisions are running low and so is our water. God only knows how far south we have run."

"There is nothing to do," he replied, "other than to alter our course once more toward the west; we must raise land soon or we shall all be lost."

I told him to do so, and then I set to work improvising a crude sextant with which we finally took our bearings in a rough and most unsatisfactory manner; for when the work was done, we did not know how far from the truth the result might be. It showed us to be about 20° north and 30° west—nearly twenty-five hundred miles off our course. In short, if our reading was anywhere near correct, we must have been traveling due south for six days. Bradley now relieved Benson, for we had arranged our shifts so that the latter and Olson now divided the nights, while Bradley and I alternated with one another during the days.

I questioned both Olson and Benson closely in the matter of the compass; but each stoutly maintained that no one had tampered with it during his tour of duty. Benson gave me a knowing smile, as much as to say: "Well, you and I know who did this." Yet I could not believe that it was the girl.

An Interview With a Swedish Captain

WE kept to our westerly course for several hours when the lookout's cry announced a sail. I ordered the *U-33's* course altered, and we bore down upon the stranger, for I had come to a decision which was the result of necessity. We could not lie there in the middle of the Atlantic and starve to death if there was any way out of it. The sailing ship saw us while we were still a long way off, as was evidenced by her efforts to escape. There was scarcely any wind, however, and her case was hopeless; so when we drew near and signaled her to stop, she came into the wind and lay there with her sails flapping idly. We moved in quite close to her. She was the *Balmen* of Halmstad, Sweden, with a general cargo from Brazil for Spain.

I explained our circumstances to her skipper and asked for food, water and oil; but when he found that we were not German, be became very angry and abusive and started to draw away from us; but I was in no mood for any such business. Turning toward Bradley, who was in the conning-tower, I snapped out: "Gun-service on deck! To the diving stations!" We had no opportunity for drill; but every man had been posted as to his duties, and the German members of the crew understood that it was obedience or death for them, as each was accompanied by a man with a pistol. Most of them, though, were only too glad to obey me.

Bradley passed the order down into the ship, and a moment later the gun-crew clambered up the narrow ladder and at my direction, trained its piece upon the slow-moving Swede. "Fire a shot across her bow," I instructed the gun-captain.

Accept it from me, it didn't take that Swede long to see the error of his way and get the red and white pennant signifying "I understand" to the masthead. Once again the sails flapped idly, and then I ordered him to lower a boat and come after me. With Olson and a couple of the Englishmen I boarded the ship, and from her cargo selected what we needed—oil, provisions and water. I gave the master of the *Balmen* a receipt for what we took, together with an affidavit signed by Bradley, Olson, and myself, stating briefly how we had come into possession of the *U-33* and the urgency of our need for what we took. We addressed both to any British agent with the request that the owners of the *Balmen* be reimbursed; but whether or not they were, I do not know.[1]

With water, food, and oil aboard, we felt that we had obtained a new lease on life. Now, too, we knew definitely where we were, and I determined to make for Georgetown, British Guiana—but I was destined to again suffer bitter disappointment.

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[1] Late in July, 1916, an item in the shipping news mentions a Swedish sailing vessel, "Balmen," Rio de Janeiro to Barcelona, sunk by a German raider sometime in June. A single survivor in an open boat was picked up off the Cape Verde Islands, in a dying condition. He expired without giving any details.

Six of us of the loyal crew had come on deck either to serve the gun or board the Swede during our set-to with her; and now, one by one, we descended the ladder into the centrale. I was the last to come, and when I reached the bottom, I found myself looking into the muzzle of a pistol in the hands of Baron Friedrich von Schoenvorts—I saw all my men lined up at one side with the remaining eight Germans standing guard over them.

I couldn't imagine how it had happened; but it had. Later I learned that they had first overpowered Benson, who was asleep in his bunk, and taken his pistol from him, and then had found it an easy matter to disarm the cook and the remaining two Englishmen below. After that it had been comparatively simple to stand at the foot of the ladder and arrest each individual as he descended.

The first thing von Schoenvorts did was to send for me and announce that as a pirate I was to be shot early the next morning. Then he explained that the *U-33* would cruise in these waters for a time, sinking neutral and enemy shipping indiscriminately, and looking for one of the German raiders that was supposed to be in these parts.

He didn't shoot me the next morning as he had promised, and it has never been clear to me why he postponed the execution of my sentence. Instead he kept me ironed just as he had been; then he kicked Bradley out of my room and took it all to himself.

The U-Boat in German Hands

We cruised for a long time, sinking many vessels, all but one by gunfire, but we did not come across a German raider. I was surprised to note that von Schoenvorts often permitted Benson to take command; but I reconciled this by the fact that Benson appeared to know more of the duties of a submarine commander than did any of the stupid Germans.

Once or twice Lys passed me; but for the most part she kept to her room. The first time she hesitated as though she wished to speak to me; but I did not raise my head, and finally she passed on. Then one day came the word that we were about to round the Horn and that von Schoenvorts had taken it into his fool head to cruise up along the Pacific coast of North America and prey upon all sorts and conditions of merchantmen.

"I'll put the fear of God and the Kaiser into them," he said.

The very first day we entered the South Pacific we had an adventure. It turned out to be quite the most exciting adventure I had ever encountered. It fell about this way. About eight bells of the forenoon watch I heard a hail from deck, and presently the footsteps of the entire ship's company, judging by the noise that I heard at the ladder. Some one yelled back to those who had not yet reached the level of the deck: "It's the raider, the German raider *Geier!*"

I saw that we had reached the end of our rope. Below all was quiet—not a man remained. A door opened at the end of the narrow hull, and presently Nobs came trotting up to me. He licked my face and rolled over on his back, reaching for me with his big, awkward paws. Then other footsteps sounded, approaching me. I knew whose they were, and I looked straight down at the flooring. The girl was coming almost at a run—she was at my side immediately. "Here!" she cried. "Quick!" And she slipped something into my hand. It was a key—the key to my irons. At my side she also laid a pistol, and then she went on into the centrale. As she passed me. I saw that she carried another pistol for herself. It did not take me long to liberate myself, and then I was at her side. "How can I thank you?" I started; but she shut me up with a word.

"Do not thank me," she said coldly. "I do not care to hear your thanks or any other expression from you. Do not stand there looking at me. I have given you a chance to do something—now do it!" The last was a peremptory command that made me jump.

Glancing up, I saw that the tower was empty, and I lost no time in clambering up, looking about me. About a hundred yards off lay a small, swift cruiser-raider, and above her floated the German man-of-war's flag. A boat had just been lowered, and I could see it moving toward us filled with officers and men. The cruiser lay dead ahead. "My," I thought, "what a wonderful targ——"

I stopped even thinking, so surprised and shocked was I by the boldness of my imagery. The girl was just below me. I looked down at her wistfully. Could I trust her? Why had she released me at this moment? I must! I must! There was no other way. I dropped back below. "Ask Olson to step down here, please," I requested; "and don't let anyone see you ask him."

She looked at me with a puzzled expression on her face for the barest fraction of a second, and then she turned and went up the ladder. A moment later Olson returned, and the girl followed him. "Quick!" I whispered to the big Irishman, and made for the bow compartment where the torpedo-tubes are built into the boat; here, too, were the torpedoes. The girl accompanied us, and when she saw the thing I had in mind, she stepped forward and lent a hand to the swinging of the great cylinder of death and destruction into the mouth of its tube. With oil and main strength we shoved the torpedo home and shut the tube; then I ran back to the conning-tower, praying in my heart of hearts that the *U-33* had not swung her bow away from the prey. No, thank God!

Never could aim have been truer. I signaled back to Olson: "Let'er go!" The *U-33* trembled from stem to stern as the torpedo shot from its tube. I saw the white wake leap from her bow straight toward the enemy cruiser. A chorus of hoarse yells arose from the deck of our own craft; I saw the officers stand suddenly erect in the boat that was approaching us, and I heard loud cries and curses from the raider. Then I turned my attention to my own business. Most of the men on the submarine's deck were standing in paralyzed fascination, staring at the torpedo. Bradley happened to be looking toward the conning-tower and saw me. I sprang on deck and ran toward him. "Quick!" I whispered. "While they are stunned, we must overcome them."

A Recapture of the Ship

A GERMAN was standing near Bradley—just in front of him. The Englishman struck the fellow a frantic blow upon the neck and at the same time snatched his pistol from its holster. Von Schoenvorts had recovered from his first surprise quickly and had turned toward the main hatch to investigate. I covered him with my revolver, and at the same instant the torpedo struck the raider, the terrific explosion drowning the German's command to his men.

Bradley was now running from one to another of our men, and though some of the Germans saw and heard him, they seemed too stunned for action.

Olson was below, so that there were only nine of us against eight Germans, for the man Bradley had struck still lay upon the deck. Only two of us were armed; but the heart seemed to have gone out of them, and they put up but half-hearted resistance. Von Schoenvorts was the worst—he was fairly frenzied with rage and chagrin, and he came charging for me like a mad bull, and as he came he discharged his pistol. If he'd stopped long enough to take aim, he might have gotten me; but his pace made him wild, so that not a shot touched me, and then we clinched and went to the deck. This left two pistols, which two of my own men were quick to appropriate. The Baron was no match for me in a hand-to-hand encounter, and I soon had him pinned to the deck and the life almost choked out of him.

A half-hour later things had quieted down, and all was much the same as before the prisoners had revolted—only we kept a much closer watch on von Schoenvorts. The *Geier* had sunk while we were still battling upon our deck, and afterward we had drawn away toward the north, leaving the survivors to the attention of the single boat which had been making its way toward us when Olson launched the torpedo. I suppose the poor devils never reached land, and if they did, they most probably perished on that cold and inhospitable shore; but I couldn't permit them aboard the *U-33*. We had all the Germans we could take care of.

That evening the girl asked permission to go on deck. She said that she felt the effects of long confinement below, and I readily granted her request. I could not understand her, and I craved an opportunity to talk with her again in an effort to fathom her and her intentions, and so I made it a point to follow her up the ladder. It was a clear, cold, beautiful night. The sea was calm except for the white water at our bows and the two long radiating swells running far off into the distance upon either hand astern, forming a great V which our propellers filled with choppy waves. Benson was in the tower, we were bound for San Diego and all looked well.

Lys stood with a heavy blanket wrapped around her slender figure, and as I approached her, she half turned toward me to see who it was. When she recognized me, she immediately turned away.

"I want to thank you," I said, "for your bravery and loyalty—you were magnificent. I am sorry that you had reason before to think that I doubted you."

"You did doubt me," she replied in a level voice. "You practically accused me of aiding Baron von Schoenvorts. I can never forgive you."

There was a great deal of finality in both her words and tone.

"I could not believe it," I said; "and yet two of my men reported having seen you in conversation with van Schoenvorts late at night upon two separate occasions—after each of which some great damage was found done in the morning. I didn't want to doubt you; but I carried all the responsibility of the lives of these men, of the safety of the ship, of your life and mine. I had to watch you, and I had to put you on your guard against a repetition of your madness."

She was looking at me now with those great eyes of hers very wide and round.

"Who told you that I spoke with Baron von Schoenvorts at night, or any other time?" she asked.

"I cannot tell you, Lys," I replied, "but it came to me from two different sources."

"Then two men have lied," she asserted without heat. "I have not spoken to Baron von Schoenvorts other than in your presence when first we came aboard the *U-33*. And please, when you address me, remember that to others than my intimates I am Miss La Rue."

Did you ever get slapped in the face when you least expected it? No? Well, then you do not know how I felt at that moment. I could feel the hot, red flush surging up my neck, across my cheeks, over my ears, clear to my scalp. And it made me love her all the more; it made me swear inwardly a thousand solemn oaths that I would win her.

CHAPTER IV

FOR several days things went along in about the same course. I took our position every morning with my crude sextant; but the results were always most unsatisfactory. They always showed a considerable westing when I knew that we had been sailing due north. I blamed my crude instrument, and kept on. Then one afternoon the girl came to me.

"Pardon me," she said; "but were I you, I should watch this man Benson—especially when he is in charge." I asked her what she meant, thinking I could see the influence of von Schoenvorts raising a suspicion against one of my most trusted men.

"If you will note the boat's course a half-hour after Benson goes on duty," she said, "you will know what I mean, and you will understand why he prefers a night watch. Possibly, too, you will understand some other things that have taken place aboard."

Then she went back to her room, thus ending the conversation. I waited until half an hour after Benson had gone on duty, and then I went on deck, passing through the conning-tower where Benson sat, and looking at the compass. It showed that our course was north by west—that is, one point west of north, which was, for our assumed position, about right. I was greatly relieved to find that nothing was wrong, for the girl's words had caused me considerable apprehension. I was about to return to my room when a thought occurred to me that again caused me to change my mind—and, incidentally, came near proving my death-warrant.

When I had left the conning-tower little more than a half-hour since, the sea had been breaking over the port bow, and it seemed to me quite improbable that in so short a time an equally heavy sea could be deluging us from the opposite side of the ship—winds may change quickly, but not a long, heavy sea. There was only one other solution —since I left the tower, our course had been altered some eight points. Turning quickly, I climbed out upon the conning-tower. A single glance at the heavens confirmed my suspicions; the constellations which should have been dead ahead were directly starboard. We were sailing due west.

Just for an instant longer I stood there to check up my calculations—I wanted to be quite sure before I accused Benson of perfidy, and about the only thing I came near making quite sure of was death. I cannot see even now how I escaped it. I was standing on the edge of the conning-tower, when a heavy palm suddenly struck me between the shoulders and hurled me forward into space. The drop to the triangular deck forward of the conning-tower might easily have broken a leg for me, or I might have slipped off from the deck and rolled overboard; but fate was upon my side, as I was only slightly bruised. As I came to my feet, I heard the conning-tower cover slam. There is a ladder which leads from the deck to the top of the tower. Up this I scrambled as fast as I could go; but Benson had the cover tight before I reached it.

I stood there a moment in dumb consternation. What did the fellow intend? What was going on below? If Benson was a traitor, how could I know that there were not other traitors among us? I cursed myself for my folly in going out upon the deck, and then this thought suggested another—a hideous one: who was it had really been responsible for my being here?

Thinking to attract attention from inside the craft, I again ran down the ladder and on the small deck only to find that the steel covers of the conning-tower windows were shut, and then I leaned with my back against the tower and cursed myself for a gullible idiot.

I glanced at the bow. The sea seemed to be getting heavier, for every wave now washed completely over the lower deck. I watched them for a moment, and then a sudden chill pervaded my entire being. It was not the chill of wet clothing, or the dashing spray which drenched my face; no, it was the chill of the hand of death upon my heart. In an instant I had turned the last corner of life's highway and was looking God Almighty in the face—the *U-33* was being slowly submerged!

The Hand of Death Upon the Heart

It would be difficult, even impossible, to set down in writing my sensations at that moment. All I can particularly recall is that I laughed, though neither from a spirit of bravado nor from hysteria. And I wanted to smoke. Lord! how I did want to smoke; but that was out of the question.

I watched the water rise until the little deck I stood on was awash, and then I clambered once more to the top of the conning-tower. From the very slow submergence of the boat I knew that Benson was doing the entire trick alone—that he was merely permitting the diving-tanks to fill and that the diving-rudders were not in use. The throbbing of the engines ceased, and in its stead came the steady vibration of the electric motors. The water was halfway up the conning-tower! I had perhaps five minutes longer on the deck. I tried to decide what I should do after I was washed away. Should I swim until exhaustion claimed me, or should I give up and end the agony at the first plunge?

From below came two muffled reports. They sounded not unlike shots. Was Benson meeting with resistance? Personally it could mean little to me, for even though my men might overcome the enemy, none would know of my predicament until long after it was too late to succor me. The top of the conning-tower was now awash. I clung to the wireless mast, while the great waves surged sometimes completely over me.

I knew the end was near and, almost involuntarily, I did that which I had not done since childhood—I prayed. After that I felt better.

I clung and waited, but the water rose no higher. Instead it receded. Now the top of the conning-tower received only the crests of the higher waves; now the little triangular deck below became visible! What had occurred within? Did Benson believe me already gone and was he emerging because of that belief, or had he and his forces been vanquished? The suspense was more wearing than that which I had endured while waiting for dissolution. Presently the main deck came into view, and then the conning-tower opened behind me, and I turned to look into the anxious face of Bradley. An expression of relief overspread his features.

"Thank God, man!" was all he said as he reached forth and dragged me into the tower. I was cold and numb and rather all in. Another few minutes would have done for me, I am sure, but the warmth of the interior helped to revive me, aided and abetted by some brandy which Bradley poured down my throat, from which it nearly removed the membrane. That brandy would have revived a corpse.

When I got down into the centrale, I saw the Germans lined up on one side with a couple of my men with pistols standing over them. Von Schoenvorts was among them. On the floor lay Benson, moaning, and beyond him stood the girl, a revolver in one hand. I looked about, bewildered.

"What has happened down here?" I asked. "Tell me!"

Bradley replied. "You see the result, sir," he said. "It might have been a very different result but for Miss La Rue. We were all asleep. Benson had relieved the guard early in the evening; there was no one to watch him—no one but Miss La Rue. She felt the submergence of the boat and came out of her room to investigate. She was just in time to see Benson at the diving valves. When he saw her, he raised his pistol and fired point-blank at her, but he missed and she fired—and didn't miss. The two shots awakened everyone, and as our men were armed, the result, as you see it, was inevitable, but it would have been very different had it not been for Miss La Rue. It was she who closed the diving-tank sea-cocks and roused Olson and me, and had the pumps started to empty them."

And there I had been thinking that through her machinations I had been lured to the deck and to my death! I could have gone on my knees to her and begged her forgiveness—or at least I could have, had I not been Anglo-Saxon. As it was, I could only remove my soggy cap and bow and mumble my appreciation. She made no reply—only turned and walked very rapidly toward her room. Could I have heard aright? Was it really a sob that came floating back to me through the narrow aisle of the *U-33?*

The Traitor's Story

BENSON died that night. He remained defiant almost to the last; but just before he went out, he motioned to me; and I leaned over to catch the faintly whispered words.

"I did it alone," he said. "I did it because I hate you—I hate all your kind. I was kicked out of your shipyard at Santa Monica. I was kicked out of California. I am an I. W. W. I became a German agent—not because I love them, for I hate them too—but because I wanted to injure Americans, whom I hated more. I threw the wireless apparatus overboard. I destroyed the chronometer and the sextant. I devised a scheme for varying the compass to suit my wishes. I told Wilson that I had seen the girl talking with von Schoenvorts, and I made the poor egg think he had seen her doing the same thing. I am sorry—sorry that my plans failed. I hate you."

He didn't die for a half-hour after that; nor did he speak again—aloud; but just a few seconds before he went to meet his Maker, his lips moved in a faint whisper; and as I leaned close to catch his words, what do you suppose I heard? "Now—I—lay me—down—to—sleep—" That was all; Benson was dead. We threw his body overboard.

The wind of that night brought on some pretty rough weather with a lot of black clouds which persisted for several days. We didn't know what course we had been holding, and there was no way of finding out, as we could no longer trust the compass, not knowing what Benson had done to it. The long and the short of it was that we cruised about aimlessly until the sun came out again. I'll never forget that day or its surprises. We reckoned, or rather guessed, that we were somewhere off the coast of Peru. The wind, which had been blowing fitfully from the east, suddenly veered around into the south, and presently we felt a sudden chill.

"Peru!" snorted Olson. "When were yez after smellin' iceber-rgs off Peru?"

Icebergs! "Icebergs, nothin'!" exclaimed one of the Englishmen. "Why, man, they don't come north of fourteen here in these waters."

"Then," replied Olson, "ye're sout' of fourteen, me b'y."

We thought he was crazy; but he wasn't, for that afternoon we sighted a great berg south of us, and we'd been running north, we thought, for days. I can tell you we were a discouraged lot; but we got a faint thrill of hope early the next morning when the lookout bawled down the open hatch: "Land! Land northwest by west!"

I think we were all sick for the sight of land. I know that I was; but my interest was quickly dissipated by the sudden illness of three of the Germans. Almost simultaneously they commenced vomiting. They couldn't suggest any explanation for it. I asked them what they had eaten, and found they had eaten nothing other than the food cooked for all of us. "Have you drunk anything?" I asked, for I knew that there was liquor aboard, and medicines in the same locker.

"Only water," moaned one of them. "We all drank water together this morning. We opened a new tank. Maybe it was the water."

I started an investigation which revealed a terrifying condition—some one, probably Benson, had poisoned all the remaining water on the ship. It would have been worse, though, had land not been in sight. The sight of land filled us with renewed hope.

Our course had been altered, and we were rapidly approaching what appeared to be a precipitous headland. Cliffs, seemingly rising perpendicularly out of the sea, faded away into the mist upon either hand as we approached. The land before us might have been a continent, so mighty appeared the shore-line; yet we knew that we must be thousands of miles from the nearest western land-mass—New Zealand or Australia.

We took our bearings with our crude and inaccurate instruments; we searched the chart; we cudgeled our brains; and at last it was Bradley who suggested a solution. He was in the tower and watching the compass, to which he called my attention. The needle was pointing straight toward the land. Bradley swung the helm hard to starboard. I could feel the *U-33* respond, and yet the arrow still clung straight and sure toward the distant cliffs.

"What do you make of it?" I asked him.

"Did you ever hear of Caproni?" he asked.

"An early Italian navigator?" I returned.

"Yes; he followed Cook about 1721. He is scarcely mentioned even by contemporaneous historians—probably because he got into political difficulties on his return to Italy. It was the fashion to scoff at his claims, but I recall reading one of his works—his only one, I believe—in which he described a new continent in the south seas, a continent made up of 'some strange metal' which attracted the compass; a rock-bound, inhospitable coast, without beach or harbor, which extended for hundreds of miles. He could make no landing; nor in the several days he cruised about it did he see sign of life. He called it Caprona and sailed away. I believe, sir, that we are looking upon the coast of Caprona, uncharted and forgotten for two hundred years."

"If you are right, it might account for much of the deviation of the compass during the past two days," I suggested. "Caprona has been luring us upon her deadly rocks. Well, we'll accept her challenge. We'll land upon Caprona. Along that long front there must be a vulnerable spot. We will find it, Bradley, for we must find it. We must find water on Caprona, or we must die."

An Inhospitable Coast, and a Strange Discovery

AND so we approached the coast upon which no living eyes had ever rested. Straight from the ocean's depths rose towering cliffs, shot with browns and blues and greens—withered moss and lichen and the verdigris of copper, and everywhere the rusty ocher from iron pyrites. The cliff-tops, though ragged, were of such uniform height as to suggest the boundaries of a great plateau, and now and again we caught glimpses of verdure topping the rocky escarpment, as though bush or jungle-land had pushed outward from a lush vegetation farther inland to signal to an unseeing world that Caprona lived and joyed in life beyond her austere and repellent coast.

But metaphor, however poetic, never slaked a dry throat. To enjoy Caprona's romantic suggestions we must have water, and so we came in close, always sounding, and skirted the shore. As close in as we dared cruise, we found fathomless depths, and always the same unbroken coast-line of bald cliff. As darkness threatened, we drew away and lay well off the coast all night. We had not as yet really commenced to suffer for lack of water; but I knew that it would not be long before we did, and so at the first streak of dawn I moved in again and once more took up the hopeless survey of the forbidding coast.

Toward noon we discovered a beach, the first we had seen. It was a narrow strip of sand at the base of a part of the cliff that seemed lower than any we had before scanned. At its foot, half buried in the sand, lay great boulders, mute evidence that in a bygone age some mighty natural force had crumpled Caprona's barrier at this point. It was Bradley who first called our attention to a strange object lying among the boulders above the surf.

"Looks like a man," he said, and passed his glasses to me.

I looked long and carefully and could have sworn that the thing I saw was the sprawled figure of a human being. Miss La Rue was on deck with us. I turned and asked her to go below. Without a word she did as I bade. Then I stripped, and as I did so, Nobs looked questioningly at me. He had been wont at home to enter the surf with me, and evidently he had not forgotten it.

"What are you going to do, sir?" asked Olson.

"I'm going to see what that thing is on shore," I replied. "If it's a man, it may mean that Caprona is inhabited, or it may merely mean that some poor devils were shipwrecked here. I ought to be able to tell from the clothing which is more near the truth."

"How about sharks?" queried Olson. "Sure, you ought to carry a knife."

"Here you are, sir," cried one of the men.

It was a long slim blade he offered—one that I could carry between my teeth—and so I accepted it gladly.

"Keep close in," I directed Bradley, and then I dived over the side and struck out for the narrow beach. There was another splash directly behind me, and turning my head, I saw faithful old Nobs swimming valiantly in my wake.

The surf was not heavy, and there was no undertow, so we made shore easily, effecting an equally easy landing. The beach was composed largely of small stones worn smooth by the action of water. There was little sand, though from the deck of the *U-33* the beach had appeared to be all sand, and I saw no evidences of molluscs or crustaceans such as are common to all beaches I have previously seen. I attribute this to the facts of the smallness of the beach, the enormous depth of surrounding water and the great distance at which Caprona lies from her nearest neighbor.

As Nobs and I approached the recumbent figure farther up the beach, I was apprised by my nose that whether man or not, the thing had once been organic and alive, but that for some time it had been dead. Nobs halted, sniffed and growled. A little later he sat down upon his haunches, raised his muzzle to the heavens and bayed forth a most dismal howl. I shied a small stone at him and bade him shut up—his uncanny noise made me nervous. When I had come quite close to the thing, I still could not say whether it had been man or beast. The carcass was badly swollen and partly decomposed. There was no sign of clothing upon or about it. A fine, brownish hair covered the chest and abdomen, and the face, the palms of the hands, the feet, the shoulders and back were practically hairless. The creature must have been about the height of a fair-sized man; its features were similar to those of a man; yet had it been a man?

I could not say, for it resembled an ape no more than it did a man. Its large toes protruded laterally as do those of the semiarboreal people of Borneo, the Phillippines and other remote regions where low types still persist. The countenance might have been that of a cross between *Pithecanthropus*, the Java ape-man, and a daughter of the Piltdown race of prehistoric Sussex. A wooden cudgel lay beside the corpse.

Water is Needed, Can it be Found?

NOW this fact set me thinking. There was no wood of any description in sight. There was nothing about the beach to suggest a wrecked mariner. There was absolutely nothing about the body to suggest that it might possibly in life have known a maritime experience. It was the body of a low type of man or a high type of beast. In neither instance would it have been of a seafaring race. Therefore I deduced that it was native to Caprona—that it lived inland, and that it had fallen or been hurled from the cliffs above. Such being the case, Caprona was habitable, if not inhabited, by man; but how to reach the habitable interior! That was the question. A closer view of the cliffs than had been afforded me from the deck of the *U-33* only confirmed my conviction that no mortal man could scale those perpendicular heights; there was not a finger-hold, not a toe-hold, upon them. I turned away baffled.

Nobs and I met with no sharks upon our return journey to the submarine. My report filled everyone with theories and speculations, and with renewed hope and determination. They all reasoned along the same lines that I had reasoned—the conclusions were obvious, but not the water. We were now thirstier than ever.

The balance of that day we spent in continuing a minute and fruitless exploration of the monotonous coast. There was not another break in the frowning cliffs—not even another minute patch of pebbly beach. As the sun fell, so did our spirits. I had tried to make advances to the girl again; but she would have none of me, and so I was not only thirsty but otherwise sad and downhearted. I was glad when the new day broke the hideous spell of a sleepless night.

The morning's search brought us no shred of hope. Caprona was impregnable—that was the decision of all; yet we kept on. It must have been about two bells of the afternoon watch when Bradley called my attention to the branch of a tree, with leaves upon it, floating on the sea. "It may have been carried down to the ocean by a river," he suggested.

"Yes," I replied, "it may have; it may have tumbled or been thrown off the top of one of these cliffs."

Bradley's face fell. "I thought of that, too," he replied, "but I wanted to believe the other."

"Right you are!" I cried. "We must believe the other until we prove it false. We can't afford to give up heart now, when we need heart most. The branch was carried down by a river, and we are going to find that river." I smote my open palm with a clenched fist, to emphasize a determination unsupported by hope. "There!" I cried suddenly. "See that, Bradley?" And I pointed at a spot closer to shore. "See that, man!" Some flowers and grasses and another leafy branch floated toward us. We both scanned the water and the coastline. Bradley evidently discovered something, or at least thought that he had. He called down for a bucket and rope, and when they were passed up to him, he lowered the former into the sea and drew it in filled with water. Of this he took a taste, and straightening up, looked into my eyes with an expression of elation—as much as to say "I told you so!"

"This water is warm," he announced, "and fresh!"

I grabbed the bucket and tasted its contents. The water was very warm, and it was fresh, but there was a most unpleasant taste to it.

"Did you ever taste water from a stagnant pool full of tadpoles?" Bradley asked.

"That's it," I exclaimed, "—that's just the taste exactly, though I haven't experienced it since boyhood; but how can water from a flowing stream taste thus, and what the dickens makes it so warm? It must be at least 70 or 80 Fahrenheit, possibly higher."

"Yes," agreed Bradley, "I should say higher; but where does it come from?"

"That is easily discovered now that we have found it." I answered. "It can't come from the ocean; so it must come from the land. All that we have to do is follow it, and sooner or later we shall come upon its source."

A Subterranean Stream

We were already rather close in; but I ordered the *U-33's* prow turned inshore and we crept slowly along, constantly dipping up the water and tasting it to assure ourselves that we didn't get outside the fresh-water current. There was a very light off-shore wind and scarcely any breakers, so that the approach to the shore was continued with little or no danger. We sounded constantly without finding bottom; yet though we were already quite close, we saw no indication of any indentation in the coast from which even a tiny brooklet might issue, and certainly no mouth of a large river such as this must necessarily be to freshen the ocean even two hundred yards from shore. The tide was running out, and this, together with the strong flow of the fresh-water current, would have prevented our going against the cliffs even had we not been under power; as it was we had to buck the combined forces in order to hold our position at all. We came up to within twenty-five feet of the sheer wall, which loomed high above us. There was no break in its forbidding face. As we watched the face of the waters and searched the cliff's face, Olson suggested that the fresh water might come from a submarine geyser. This, he said, would account for its heat; but even as he spoke a bush, covered thickly with leaves and flowers, bubbled to the surface and floated off astern.

"Flowering shrubs don't thrive in the subterranean caverns from which geysers spring," suggested Bradley.

Olson shook his head. "It beats me," he said.

"I've got it!" I exclaimed suddenly. "Look there!" And I pointed at the base of the cliff ahead of us, which the receding tide was gradually exposing to our view. They all looked, and all saw what I had seen—the top of a dark opening in the rock, through which water was pouring out into the sea. "It's the subterranean channel of an inland river," I cried. "It flows through a land covered with vegetation—and therefore a land upon which the sun shines. No subterranean caverns produce any order of plant life even remotely resembling what we have seen disgorged by this river. Beyond those cliffs lie fertile lands and fresh water—perhaps, game."

"Yis sir," said Olson, "behoind the cliffs! Ye spoke a true word, sir—behoind!"

Bradley laughed—a rather sorry laugh, though. "You might as well call our attention to the fact, sir," he said, "that science has indicated that there is fresh water and vegetation on Mars."

"Not at all," I rejoined. "A U-boat isn't constructed to navigate space, but it is designed to travel below the surface of the water."

"You'd be after sailin' into that blank pocket?" asked Olson.

"I would, Olson," I replied. "We haven't one chance for life in a hundred thousand if we don't find food and water upon Caprona. This water coming out of the cliff is not salt; but neither is it fit to drink, though each of us has drunk it. It is fair to assume that inland the river is fed by pure streams, that there are fruits and herbs and game. Shall we lie out here and die of thirst and starvation with a land of plenty possibly a few hundred yards away? We have the means for navigating a subterranean river. Are we too cowardly to utilize this means?"

"Be afther goin' to it," said Olson.

"I'm willing to see it through," agreed Bradley.

"Then under the bottom, wi' the best o' luck an' give 'em hell!" cried a young fellow who had been in the trenches.

"To the diving-stations!" I commanded, and in less than a minute the deck was deserted, the conning-tower covers had slammed to and the *U-33* was submerging—possibly for the last time. I know that I had this feeling, and I think that most of the others had it too.

As we went down, I sat in the tower with the searchlight projecting its seemingly feeble rays ahead. We submerged very slowly and without headway more than sufficient to keep her nose in the right direction, and as we went down, I saw outlined ahead of us the black opening in the great cliff. It was an opening that would have admitted a half-dozen U-boats at one and the same time, roughly cylindrical in contour—and dark as the pit of perdition.

As I gave the command which sent the *U-33* slowly ahead, I could not but feel a certain uncanny presentiment of evil. Where were we going? What lay at the end of this great sewer? Had we bidden farewell forever to the sunlight and to life, or were there before us dangers even greater than those which we now faced? I tried to keep my mind from vain imagining by calling everything which I observed to the eager ears below. I was the eyes of the whole company, and I did my best not to fail them.

Daylight Ahead at Last. An Encounter with a Strange Reptile

We had advanced a hundred yards, perhaps, when our first danger confronted us. Just ahead was a sharp right-angle turn in the tunnel. I could see the river's flotsam hurtling against the rocky wall upon the left as it was driven on by the mighty current, and I feared for the safety of the *U-33* in making so sharp a turn under such adverse conditions; but there was nothing for it but to try it. I didn't warn my fellows of the danger—it would have only caused them useless apprehension, for if we were to be smashed against the rocky wall, no power on earth could avert the quick end that would come to us. I gave the command full speed ahead and went charging toward the menace. I was forced to approach the dangerous left-hand wall in order to make the turn, and I depended upon the power of the motors to carry us through the surging waters in safety. Well, we made it; but it was a narrow squeak. As we swung around, the full force of the current caught us and drove the stern against the rocks; there was a thud which sent a tremor through the whole craft, and then a moment of nasty grinding as the steel hull scraped the rock wall. I expected momentarily the inrush of waters that would seal our doom; but presently from below came the welcome word that all was well.

In another fifty yards there was a second turn, this time toward the left! but it was more of a gentle curve, and we took it without trouble. After that it was plain sailing, though as far as I could know, there might be almost anything ahead of us, and my nerves were strained to the snapping-point every instant. After the second turn the channel ran comparatively straight for between one hundred and fifty and two hundred yards. The waters grew suddenly lighter, and my spirits rose accordingly. I shouted down to those below that I saw daylight ahead, and a great shout of thanksgiving reverberated through the ship. A moment later we emerged into sunlit water, and immediately I raised the periscope and looked about me upon the strangest landscape I had ever seen.

We were in the middle of a broad and now sluggish river the banks of which were lined by giant, arboraceous ferns, raising their mighty fronds fifty, one hundred, two hundred feet into the quiet air. Close by us something rose to the surface of the river and dashed at the periscope. I had a vision of wide, distended jaws, and then all was blotted out. A shiver ran down into the tower as the thing closed upon the periscope. A moment later it was gone, and I could see again. Above the trees there soared into my vision a huge thing on batlike wings —a creature large as a large whale, but fashioned more after the order of a lizard. Then again something charged the periscope and blotted out the mirror. I will confess that I was almost gasping for breath as I gave the commands to emerge. Into what sort of strange land had fate guided us?

The instant the deck was awash, I opened the conning-tower hatch and stepped out. In another minute the deck-hatch lifted, and those who were not on duty below streamed up the ladder, Olson bringing Nobs under one arm. For several minutes no one spoke; I think they must each have been as overcome by awe as was I. All about us was a flora and a fauna as strange and wonderful to us as might have been those upon a distant planet had we suddenly been miraculously transported through ether to an unknown world. Even the grass upon the nearer bank was unearthly—lush and high it grew, and each blade bore upon its tip a brilliant flower—violet or yellow or carmine or blue—making as gorgeous a sward as human imagination might conceive. But the life! It teemed. The tall, fern-like trees were alive with monkeys, snakes, and lizards. Huge insects hummed and buzzed hither and thither. Mighty forms could be seen moving upon the ground in the thick forest, while the bosom of the river wriggled with living things, and above flapped the wings of gigantic creatures such as we are taught have been extinct throughout countless ages.

"Look!" cried Olson. "Would you look at the giraffe comin' up out o' the bottom of the say?" We looked in the direction he pointed and saw a long, glossy neck surmounted by a small head rising above the surface of the river. Presently the back of the creature was exposed, brown and glossy as the water dripped from it. It turned its eyes upon us, opened its lizardlike mouth, emitted a shrill hiss and came for us. The thing must have been sixteen or eighteen feet in length and closely resembled pictures I had seen of restored plesiosaurs of the lower Jurassic. It charged us as savagely as a mad bull, and one would have thought it intended to destroy and devour the mighty U-boat, as I verily believe it did intend.

We were moving slowly up the river as the creature bore down upon us with distended jaws. The long neck was far outstretched, and the four flippers with which it swam were working with powerful strokes, carrying it forward at a rapid pace. When it reached the craft's side, the jaws closed upon one of the stanchions of the deck rail and tore it from its socket as though it had been a toothpick stuck in putty. At this exhibition of titanic strength I think we all simultaneously stepped backward, and Bradley drew his revolver and fired. The bullet struck the thing in the neck, just above its body; but instead of disabling it, merely increased its rage. Its hissing rose to a shrill scream as it raised half its body out of water upon the sloping sides of the hull of the *U-33* and endeavored to scramble upon the deck to devour us. A dozen shots rang out as we who were armed drew our pistols and fired at the thing; but though struck several times, it showed no signs of succumbing and only floundered farther aboard the submarine.

More Reptiles and a German Killed

I HAD noticed that the girl had come on deck and was standing not far behind me, and when I saw the danger to which we all were exposed, I turned and forced her toward the hatch. We had not spoken for some days, and we did not speak now; but she gave me a disdainful look, which was quite as eloquent as words, and broke loose from my grasp. I saw I could do nothing with her unless I exerted force, and so I turned with my back toward her that I might be in a position to shield her from the strange reptile should it really succeed in reaching the deck; and as I did so I saw the thing raise one flipper over the rail, dart its head forward and with the quickness of lightning seize upon one of the Germans. I ran forward, discharging my pistol into the creature's body in an effort to force it to relinquish its prey; but I might as profitably have shot at the sun.

Shrieking and screaming, the German was dragged from the deck, and the moment the reptile was clear of the boat, it dived beneath the surface of the water with its terrified prey. I think we were all more or less shaken by the frightfulness of the tragedy—until Olson remarked that the balance of power now rested where it belonged. Following the death of Benson we had been nine and nine—nine Germans and nine "Allies," as we called ourselves; now there were eight Germans. We never counted the girl on either side, I suppose because she was a girl, though we knew well enough now that she was ours.

And so Olson's remark helped to clear the atmosphere, for the Allies at least, and then our attention was once more directed toward the river, for around us there had sprung up a perfect bedlam of screams and hisses and a seething caldron of hideous reptiles, devoid of fear and filled only with hunger and with rage. They clambered, squirmed and wriggled to the deck, forcing us steadily backward, though we emptied our pistols into them. There were all sorts and conditions of horrible things—huge, hideous, grotesque, monstrous—a veritable Mesozoic nightmare. I saw that the girl was gotten below as quickly as possible, and she took Nobs with her—poor Nobs had nearly barked his head off; and I think, too, that for the first time since his littlest puppyhood he had known fear; nor can I blame him. After the girl I sent Bradley and most of the Allies and then the Germans who were on deck—von Schoenvorts being still in irons below.

The creatures were approaching perilously close before I dropped through the hatchway and slammed down the cover. Then I went into the tower and ordered full speed ahead, hoping to distance the fearsome things; but it was useless. Not only could any of them easily outdistance the *U-33*, but the further upstream we progressed the greater the number of our besiegers, until fearful of navigating a strange river at high speed, I gave orders to reduce and moved slowly and majestically through the plunging, hissing mass. I was mighty glad that our entrance into the interior of Caprona had been inside a submarine rather than in any other form of vessel. I could readily understand how it might have been that Caprona had been invaded in the past by venturesome navigators without word of it ever reaching the outside world, for I can assure you that only by submarine could man pass up that great sluggish river, alive.

We proceeded up the river for some forty miles before darkness overtook us. I was afraid to submerge and lie on the bottom overnight for fear that the mud might be deep enough to hold us, and as we could not hold with the anchor, I ran in close to shore, and in a brief interim of attack from the reptiles we made fast to a large tree. We also dipped up some of the river water and found it, though quite warm, a little sweeter than before. We had food enough, and with the water we were all quite refreshed; but we missed fresh meat. It had been weeks, now, since we had tasted it, and the sight of the reptiles gave me an idea—that a steak or two from one of them might not be bad eating. So I went on deck with a rifle, twenty of which were aboard the *U-33*. At sight of me a huge thing charged and climbed to the deck. I retreated to the top of the conning-tower, and when it had raised its mighty bulk to the level of the little deck on which I stood, I let it have a bullet right between the eyes.

The thing stopped then and looked at me a moment as much as to say: "Why, this thing has a stinger! I must be careful." And then it reached out its long neck and opened its mighty jaws and grabbed for me; but I wasn't there. I had tumbled backward into the tower, and I mighty near killed myself doing it. When I glanced up, that little head on the end of its long neck was coming straight down on top of me, and once more I tumbled into greater safety, sprawling upon the floor of the centrale.

Olson was looking up, and seeing what was poking about in the tower, ran for an ax; nor did he hesitate a moment when he returned with one, but sprang up the ladder and commenced chopping away at that hideous face. The thing didn't have sufficient brainpan to entertain more than a single idea at once. Though chopped and hacked, and with a bullet-hole between its eyes, it still persisted madly in its attempt to get inside the tower and devour Olson, though its body was many times the diameter of the hatch; nor did it cease its efforts until after Olson had succeeded in decapitating it. Then two men went on deck through the main hatch, and while one kept watch, the other cut a hind quarter off *Plesiosaurus Olsoni*, as Bradley dubbed the thing. Meantime Olson cut off the long neck, saying that it would make fine soup. By the time we had cleared away the blood and refuse in the tower, the cook had juicy steaks and a steaming broth upon the electric stove, and the aroma arising from *P. Olsoni* filled us all with a hitherto unfelt admiration for him and all his kind.

CHAPTER V

THE steaks we had that night, and they were fine; and the following morning we tasted the broth. It seemed odd to be eating a creature that should, by all the laws of paleontology, have been extinct for serveral million years. It gave one a feeling of newness that was almost embarrassing, although it didn't seem to embarrass our appetites. Olson ate until I thought he would burst.

The girl ate with us that night at the little officer's mess just back of the torpedo compartment. The narrow table was unfolded; the four stools were set out; and for the first time in days we sat down to eat, and for the first time in weeks we had something to eat other than the monotony of the short rations of an impoverished U-boat. Nobs sat between the girl and me and was fed with morsels of the Plesiosaurus steak, at the risk of forever contaminating his manners. He looked at me sheepishly all the time, for he knew that no well-bred dog should eat at table; but the poor fellow was so wasted from improper food that I couldn't enjoy my own meal had he been denied an immediate share in it; and anyway Lys wanted to feed him. So there you are.

Lys was coldly polite to me and sweetly gracious to Bradley and Olson. She wasn't of the gushing type, I knew; so I didn't expect much from her and was duly grateful for the few morsels of attention she threw upon the floor to me. We had a pleasant meal, with only one unfortunate occurrence—when Olson suggested that possibly the creature we were eating was the same one that ate the German. It was some time before we could persuade the girl to continue her meal, but at last Bradley prevailed upon her, pointing out that we had come upstream nearly forty miles since the German had been seized, and that during that time we had seen literally thousands of these denizens of the river, indicating that the chances were very remote that this was the same Plesiosaur. "And anyway," he concluded, "it was only a scheme of Mr. Olson's to get all the steaks for himself."

We discussed the future and ventured opinions as to what lay before us; but we could only theorize at best, for none of us knew. If the whole land was infested by these and similar horrid monsters, life would be impossible upon it, and we decided that we would only search long enough to find and take aboard fresh water and such meat and fruits as might be safely procurable and then retrace our way beneath the cliffs to the open sea.

And so at last we turned into our narrow bunks, hopeful, happy and at peace with ourselves, our livers and our God, to awaken the following morning refreshed and still optimistic. We had an easy time getting away—as we learned later, because the saurians do not commence to feed until late in the morning. From noon to midnight their curve of activity is at its height, while from dawn to about nine o'clock it is lowest. As a matter of fact, we didn't see one of them all the time we were getting under way, though I had the cannon raised to the deck and manned against an assault. I hoped, but I was none too sure, that shells might discourage them. The trees were full of monkeys of all sizes and shades, and once we thought we saw a manlike creature watching us from the depth of the forest.

A Great Inland Sea

SHORTLY after we resumed our course upstream, we saw the mouth of another and smaller river emptying into the main channel from the south—that is, upon our right; and almost immediately after we came upon a large island five or six miles in length; and at fifty miles there was a still larger river than the last coming in from the northwest, the course of the main stream having now changed to northeast by north. The water here was quite free from reptiles, and the vegetation upon the banks of the river had altered to more open and parklike forest, with eucalyptus and acacia mingled with a scattering of tree ferns, as though two distinct periods of geologic time had overlapped and merged. The grass, too, was less flowering, though there were still gorgeous patches mottling the greensward; and lastly, the fauna was less multitudinous.

Six or seven miles farther, and the river widened considerably; before us opened an expanse of water to the farther horizon, and then we sailed out upon an inland sea so large that only the shore-line upon our side was visible to us. The waters all about us were alive with life. There were still a few reptiles; but there were fish by the thousands, by the millions.

The water of the inland sea was very warm, almost hot, and the atmosphere was hot and heavy above it. It seemed strange that beyond the buttressed walls of Caprona icebergs floated and the south wind was biting, for only a gentle breeze moved across the face of these living waters, and that was damp and warm. Gradually we commenced to divest ourselves of our clothing, retaining only sufficient for modesty; but the sun was not hot. It was more the heat of a steam-room than of an oven.

We coasted up the shore of the lake in a northwesterly direction, sounding all the time. We found the lake deep and the bottom rocky and steeply shelving toward the center, and once when I moved straight out from shore to take other soundings we could find no bottom whatsoever. In open spaces along the shore we caught occasional glimpses of the distant cliffs, and here they appeared only a trifle less precipitous than those which bound Caprona on the seaward side. My theory is that in a far distant era Caprona was a mighty mountain—perhaps the world's mightiest mountain—and that in some titanic eruption volcanic action blew off the entire crest, blew thousands of feet of the mountain upward and outward and over the surrounding continent, leaving a great crater; and then, possibly, the continent sank as ancient continents have been known to do, leaving only the summit of Caprona above the sea. The encircling walls, the central lake, the hot springs which feed the lake, all point to such a conclusion, and the fauna and the flora bear indisputable evidence that Caprona was once part of some great land-mass.

As we cruised up along the coast, the landscape continued a more or less open forest, with here and there a small plain where we saw animals grazing. With my glass I could make out a species of large red deer, some antelope and what appeared to be a species of horse; and once I saw the shaggy form of what might have been a monstrous bison. Here was game a plenty! There seemed little danger of starving upon Caprona. The game, however, seemed wary; for the instant the animals discovered us, they threw up their heads and tails and went cavorting off, those farther inland following the example of the others until all were lost in the mazes of the distant forest. Only the great, shaggy ox stood his ground. With lowered head he watched us until we had passed, and then continued feeding.

About twenty miles up the coast from the mouth of the river we encountered low cliffs of sandstone, broken and tortured evidence of the great upheaval which had torn Caprona asunder in the past, intermingling upon a common level the rock formations of widely separated eras, fusing some and leaving others untouched.

We ran along beside them for a matter of ten miles, arriving off a broad cleft which led into what appeared to be another lake. As we were in search of pure water, we did not wish to overlook any portion of the coast, and so after sounding and finding that we had ample depth, I ran the *U-33* between headlands into as pretty a landlocked harbor as sailorman could care to see, with good water right up to within a few yards of the shore. As we cruised slowly along, two of the Germans again saw what they believed to be a man, or manlike creature, watching us from a fringe of trees a hundred yards inland, and shortly after we discovered the mouth of a small stream emptying into the bay. It was the first stream we had found since leaving the river, and I at once made preparations to test its water. To land, it would be necessary to run the *U-33* close in to the shore, at least as close as we could, for even these waters were infested, though not so thickly, by savage reptiles. I ordered sufficient water let into the diving-tanks to lower us about a foot, and then I ran the bow slowly toward the shore, confident that should we run aground, we still had sufficient lifting force to free us when the water should be pumped out of the tanks; but the bow nosed its way gently into the reeds and touched the shore with the keel still clear.

Trying to Clear the Atmosphere

MY men were all armed now with both rifles and pistols, each having plenty of ammunition. I ordered one of the Germans ashore with a line, and sent two of my own men to guard him, for from what little we had seen of Caprona, or Caspak as we learned later to call the interior, we realized that any instant some new and terrible danger might confront us. The line was made fast to a small tree, and at the same time I had the stern anchor dropped.

As soon as the German and his guard were aboard again, I called all hands on deck, including von Schoenvorts, and there I explained to them that the time had come for us to enter into some sort of an agreement among ourselves that would relieve us of the annoyance and embarrassment of being divided into two antagonistic parts—prisoners and captors. I told them that it was obvious our very existence depended upon our unity of action, that we were to all intent and purpose entering a new world as far from the seat and causes of our own world-war as if millions of miles of space and eons of time separated us from our past lives and habitations.

"There is no reason why we should carry our racial and political hatreds into Caprona," I insisted. "The Germans among us might kill all the English, or the English might kill the last German, without affecting in the slightest degree either the outcome of even the smallest skirmish upon the western front or the opinion of a single individual in any belligerent or neutral country. I therefore put the issue squarely to you all: shall we bury our animosities and work together with and for one another while we remain upon Caprona, or must we continue thus divided and but half armed, possibly until death has claimed the last of us? And let me tell you, if you have not already realized it, the chances are a thousand to one that not one of us ever will see the outside world again. We are safe now in the matter of food and water; we could provision the *U-33* for a long cruise; but we are practically out of fuel, and without fuel we cannot hope to reach the ocean, as only a submarine can pass through the barrier cliffs. What is your answer?" I turned toward von Schoenvorts.

He eyed me in that disagreeable way of his and demanded to know, in case they accepted my suggestion, what their status would be in event of our finding a way to escape with the *U-33*. I replied that I felt that if we had all worked loyally together we should leave Caprona upon a common footing, and to that end I suggested that should the remote possibility of our escape in the submarine develop into reality, we should then immediately make for the nearest neutral port and give ourselves into the hands of the authorities, when we should all probably be interned for the duration of the war. To my surprise he agreed that this was fair and told me that they would accept my conditions and that I could depend upon their loyalty to the common cause.

I thanked him and then addressed each one of his men individually, and each gave me his word that he would abide by all that I had outlined. It was further understood that we were to act as a military organization under military rules and discipline—I as commander, with Bradley as my first lieutenant and Olson as my second, in command of the Englishmen; while von Schoenvorts was to act as an additional second lieutenant and have charge of his own men. The four of us were to constitute a military court under which men might be tried and sentenced to punishment for infraction of military rules and discipline, even to the passing of the death-sentence.

I then had arms and ammunition issued to the Germans, and leaving Bradley and five men to guard the *U-33*, the balance of us went ashore. The first thing we did was to taste the water of the little stream—which, to our delight, we found sweet, pure and cold. This stream was entirely free from dangerous reptiles, because, as I later discovered, they become immediately dormant when subjected to a much lower temperature than 70 degrees Fahrenheit. They dislike cold water and keep as far away from it as possible. There were countless brook-trout here, and deep holes that invited us to bathe, and along the bank of the stream were trees bearing a close resemblance to ash and beech and oak, their characteristics evidently induced by the lower temperature of the air above the cold water and by the fact that their roots were watered by the water from the stream rather than from the hot springs which we afterward found in such abundance elsewhere.

Another Saurian the Allosaurus

OUR first concern now was to fill the water tanks of the *U-33* with fresh water, and that having been accomplished, we set out to hunt for game and explore inland for a short distance. Olson, von Schoenvorts, two Englishmen and two Germans accompanied me, leaving ten to guard the ship and the girl. I had intended leaving Nobs behind, but he got away and joined me and was so happy over it that I hadn't the heart to send him back. We followed the stream upward through a beautiful country for about five miles, and then came upon its source in a little boulder-strewn clearing. From among the rocks bubbled fully twenty ice-cold springs. North of the clearing rose sandstone cliffs to a height of some fifty to seventy-five feet, with tall trees growing at their base and almost concealing them from our view. To the west the country was flat and sparsely wooded, and here it was that we saw our first game—a large red deer. It was grazing away from us and had not seen us when one of my men called my attention to it. Motioning for silence and having the rest of the party lie down, I crept toward the quarry, accompanied only by Whitely. We got within a hundred yards of the deer when he suddenly raised his antlered head and pricked up his great ears. We both fired at once and had the satisfaction of seeing the buck drop; then we ran forward to finish him with our knives. The deer lay in a small open space close to a clump of acacias, and we had advanced to within several yards of our kill when we both halted suddenly and simultaneously. Whitely looked at me, and I looked at Whitely, and then we both looked in the direction of the deer.

"Blime!" he said. "Wot is hit, sir?"

"It looks to me, Whitely, like an error," I said; "some assistant god who had been creating elephants must have been temporarily transferred to the lizard-department!"

"Hi wouldn't s'y that, sir," said Whitely; "it sounds blasphemous."

"It is no more blasphemous than that thing which is swiping our meat," I replied, for whatever the thing was, it had leaped upon our deer and was devouring it in great mouthfuls which it swallowed without mastication. The creature appeared to be a great lizard at least ten feet high, with a huge, powerful tail as long as its torso, mighty hind legs and short forelegs. When it had advanced from the wood, it hopped much after the fashion of a kangaroo, using its hind feet and tail to propel it, and when it stood erect, it sat upon its tail. Its head was long and thick, with a blunt muzzle, and the opening of the jaws ran back to a point behind the eyes, and the jaws were armed with long sharp teeth. The scaly body was covered with black and yellow spots about a foot in diameter and irregular in contour. These spots were outlined in red with edgings about an inch wide. The underside of the chest, body and tail were a greenish white.

"Wot s'y we pot the bloomin' bird, sir?" suggested Whitely.

I told him to wait until I gave the word; then we would fire simultaneously, he at the heart and I at the spine.

"Hat the 'eart, sir—yes, sir," he replied, and raised his piece to his shoulder.

Our shots rang out together. The thing raised its head and looked about until its eyes rested upon us; then it gave vent to a most appalling hiss that rose to the crescendo of a terrific shriek and came for us.

"Beat it, Whitely!" I cried as I turned to run.

We were about a quarter of a mile from the rest of our party, and in full sight of them as they lay in the tall grass, watching us. That they saw all that had happened was evidenced by the fact that they now rose and ran toward us, and at their head leaped Nobs. The creature in our rear was gaining on us rapidly when Nobs flew past me like a meteor and rushed straight for the frightful reptile. I tried to recall him, but he would pay no attention to me, and as I couldn't see him sacrificed, I too, stopped and faced the monster. The creature appeared to be more impressed by Nobs than by us and our firearms, for it stopped as the Airedale dashed at it growling, and struck at him viciously with its powerful jaws.

Nobs, though, was lightning by comparison with the slow-thinking beast and dodged his opponent's thrust with ease. Then he raced to the rear of the tremendous thing and seized it by the tail. There Nobs made the error of his life. Within that mottled organ were the muscles of a Titan, the force of a dozen mighty catapults, and the owner of the tail was fully aware of the possibilities which it contained. With a single fillip of the tip it sent poor Nobs sailing through the air a hundred feet above the ground, straight back into the clump of acacias from which the beast had leaped upon our kill—and then the grotesque thing sank lifeless to the ground.

Olson and von Schoenvorts came up a minute later with their men; then we all cautiously approached the still form upon the ground. The creature was quite dead, and an examination resulted in disclosing the fact that Whitely's bullet had pierced its heart, and mine had severed the spinal cord.

"But why didn't it die instantly?" I exclaimed.

"Because," said von Schoenvorts in his disagreeable way, "the beast is so large, and its nervous organization of so low a caliber, that it took all this time for the intelligence of death to reach and be impressed upon the minute brain. The thing was dead when your bullets struck it; but it did not know it for several seconds—possibly a minute. If I am not mistaken, it is an Allosaurus of the Upper Jurassic, remains of which have been found in Central Wyoming and in the suburbs of New York."

An Irishman by the name of Brady grinned. I afterward learned that he had served three years on the traffic-squad of the Chicago police force.

I had been calling Nobs in the meantime and was about to set out in search of him, fearing, to tell the truth, to do so lest I find him mangled and dead among the trees of the acacia grove, when he suddenly emerged from among the boles, his ears flattened, his tail between his legs and his body screwed into a suppliant S. He was unharmed except for minor bruises; but he was the most chastened dog I have ever seen.

We gathered up what was left of the red deer after skinning and cleaning it, and set out upon our return journey toward the U-boat. On the way Olson, von Schoenvorts, and I discussed the needs of our immediate future, and we were unanimous in placing foremost the necessity of a permanent camp on shore. The interior of a U-boat is about as impossible and uncomfortable an abiding-place as one can well imagine, and in this warm climate, and in warm water, it was almost unendurable. So we decided to construct a palisaded camp.

CHAPTER VI

As we strolled slowly back toward the boat, planning and discussing this, we were suddenly startled by a loud and unmistakable detonation.

"A shell from the *U-33*!" exclaimed von Schoenvorts.

"What can it be after signifyin'?" queried Olson.

"They are in trouble," I answered for all, "and it's up to us to get back to them. Drop that carcass," I directed the men carrying the meat, "and follow me!" I set off at a rapid run in the direction of the harbor.

We ran for the better part of a mile without hearing anything more from the direction of the harbor, and then I reduced the speed to a walk, for the exercise was telling on us who had been cooped up for so long in the confined interior of the *U-33*. Puffing and panting, we plodded on until within about a mile of the harbor we came upon a sight that brought us all up standing. We had been passing through a little heavier timber than was usual to this part of the country, when we suddenly emerged into an open space in the center of which was such a band as might have caused the most courageous to pause. It consisted of upward of five hundred individuals representing several species closely allied to man. There were anthropoid apes and gorillas—these I had no difficulty in recognizing; but there were other forms which I had never before seen, and I was hard put to it to say whether they were ape or man. Some of them resembled the corpse we had found upon the narrow beach against Caprona's sea-wall, while others were of a still lower type, more nearly resembling the apes, and yet others were uncannily manlike, standing almost erect, being less hairy and possessing better shaped heads.

There was one among the lot, evidently the leader of them, who bore a close resemblance to the so-called Neanderthal man of La Chapelle-aux-Saints. There was the same short, stocky trunk upon which rested an enormous head habitually bent forward into the same curvature as the back, the arms shorter than the legs, and the lower legs considerably shorter than that of modern man, the knees bent forward and never straightened. This creature and one or two others who appeared to be of a lower order than he, yet higher than that of the apes, carried heavy clubs; the others were armed only with giant muscles and fighting fangs—nature's weapons. All were males, and all were entirely naked; nor was there upon even the highest among them a sign of ornamentation.

At sight of us they turned with bared fangs and low growls to confront us. I did not wish to fire among them unless it became absolutely necessary, and so I started to lead my party around them; but the instant that the Neanderthal man guessed my intention, he evidently attributed it to cowardice upon our part, and with a wild cry he leaped toward us, waving his cudgel above his head. The others followed him, and in a minute we should have been overwhelmed. I gave the order to fire, and at the first volley six of them went down, including the Neanderthal man. The others hesitated a moment and then broke for the trees, some running nimbly among the branches, while others lost themselves to us between the boles. Both von Schoenvorts and I noticed that at least two of the higher, manlike types took to the trees quite as nimbly as the apes, while others that more nearly approached man in carriage and appearance sought safety upon the ground with the gorillas.

An examination disclosed that five of our erstwhile opponents were dead and the sixth, the Neanderthal man, was but slightly wounded, a bullet having glanced from his thick skull, stunning him. We decided to take him with us to camp, and by means of belts we managed to secure his hands behind his back and place a leash around his neck before he regained consciousness. We then retraced our steps for our meat, being convinced by our own experience that those aboard the *U-33* had been able to frighten off this party with a single shell—but when we came to where we had left the deer it had disappeared.

Establishing a Camp. Trouble with the Germans. The Neanderthal Men

On the return journey Whitley and I preceded the rest of the party by about a hundred yards in the hope of getting another shot at something edible, for we were all greatly disgusted and disappointed by the loss of our venison. Whitely and I advanced very cautiously, and not having the whole party with us, we fared better than on the journey out, bagging two large antelope not a half-mile from the harbor; so with our game and our prisoner we made a cheerful return to the boat, where we found that all were safe. On the shore a little north of where we lay there were the corpses of twenty of the wild creatures who had attacked Bradley and his party in our absence, and the rest of whom we had met and scattered a few minutes later.

We felt that we had taught these wild ape-men a lesson and that because of it we would be safer in the future—at least safer from them; but we decided not to abate our carefulness one whit, feeling that this new world was filled with terrors still unknown to us; nor were we wrong.

The following morning we commenced work upon our camp, Bradley, Olson, von Schoenvorts, Miss La Rue, and I having sat up half the night discussing the matter and drawing plans. We set the men at work felling trees, selecting for the purpose jarrah, a hard, weather-resisting timber which grew in profusion near by. Half the men labored while the other half stood guard, alternating each hour with an hour off at noon. Olson directed this work. Bradley, von Schoenvorts and I, with Miss La Rue's help, staked out the various buildings and the outer wall. When the day was done, we had quite an array of logs nicely notched and ready for our building operations on the morrow, and we were all tired, for after the buildings had been staked out we all fell in and helped with the logging—all but von Schoenvorts. He being a Prussian and a gentleman, couldn't stoop to such menial labor in the presence of his men, and I didn't see fit to ask it of him, as the work was purely voluntary upon our part. He spent the afternoon shaping a swagger-stick from a branch of jarrah and talking with Miss La Rue, who had sufficiently unbent toward him to notice his existence.

We saw nothing of the wild men of the previous day, and only once were we menaced by any of the strange denizens of Caprona, when some frightful nightmare of the sky swooped down upon us, only to be driven off by a fusillade of bullets. The thing appeared to be some variety of pterodactyl, and what with its enormous size and ferocious aspect was most awe-inspiring. There was another incident, too, which to me at least was far more unpleasant than the sudden onslaught of the prehistoric reptile. Two of the men, both Germans, were stripping a felled tree of its branches. Von Schoenvorts had completed his swagger-stick, and he and I were passing close to where the two worked.

One of the men threw to his rear a small branch that he had just chopped off, and as misfortune would have it, it struck von Schoenvorts across the face. It couldn't have hurt him, for it didn't leave a mark; but he flew into a terrific rage, shouting: "Attention!" in a loud voice. The sailor immediately straightened up, faced his officer, clicked his heels together and saluted. "Pig!" roared the Baron, and struck the fellow across the face, breaking his nose. I grabbed von Schoenvort's arm and jerked him away before he could strike again, if such had been his intention, and then he raised his little stick to strike me; but before it descended the muzzle of my pistol was against his belly and he must have seen in my eyes that nothing would suit me better than an excuse to pull the trigger. Like all his kind and all other bullies, von Schoenvorts was a coward at heart, and so he dropped his hand to his side and started to turn away; but I pulled him back, and there before his men I told him that such a thing must never again occur—that no man was to be struck or otherwise punished other than in due process of the laws that we had made and the court that we had established. All the time the sailor stood rigidly at attention, nor could I tell from his expression whether he most resented the blow his officer had struck him or my interference in the gospel of the Kaiser-breed. Nor did he move until I said to him: "Plesser, you may return to your quarters and dress your wound." Then he saluted and marched stiffly off toward the *U-33*.

Just before dusk we moved out into the bay a hundred yards from shore and dropped anchor, for I felt that we should be safer there than elsewhere. I also detailed men to stand watch during the night and appointed Olson officer of the watch for the entire night, telling him to bring his blankets on deck and get what rest he could. At dinner we tasted our first roast Caprona antelope, and we had a mess of greens that the cook had found growing along the stream. All during the meal von Schoenvorts was silent and surly.

After dinner we all went on deck and watched the unfamiliar scenes of a Capronian night—that is, all but von Schoenvorts. There was less to see than to hear. From the great inland lake behind us came the hissing and the screaming of countless saurians. Above we heard the flap of giant wings, while from the shore rose the multitudinous voices of a tropical jungle with its warm, damp atmosphere such as must have enveloped the entire earth during the Paleozoic and Mesozoic eras. But here were intermingled the voices of later eras—the scream of the panther, the roar of the lion, the baying of wolves and a thunderous growling which we could attribute to nothing earthly but which one day we were to connect with the most fearsome of ancient creatures.

An Interview with Miss La Rue

ONE by one the others went to their rooms, until the girl and I were left alone together, for I had permitted the watch to go below for a few minutes, knowing that I would be on deck. Miss La Rue was very quiet, though she replied graciously enough to whatever I had to say that required reply. I asked her if she did not feel well.

"Yes," she said, "but I am depressed by the awfulness of it all. I feel of so little consequence—so small and helpless in the face of all these myriad manifestations of life stripped to the bone of its savagery and brutality. I realize as never before how cheap and valueless a thing is life. Life seems a joke, a cruel, grim joke. You are a laughable incident or a terrifying one as you happen to be less powerful or more powerful than some other form of life which crosses your path; but as a rule you are of no moment whatsoever to anything but yourself. You are a comic little figure hopping from the cradle to the grave. Yes, that is our trouble—we take ourselves too seriously; but Caprona should be a sure cure for that." She paused and laughed.

"You have evolved a beautiful philosophy," I said. "It fills such a longing in the human breast. It is full, it is satisfying, it is ennobling. What wondrous strides toward perfection the human race might have made if the first man had evolved it and it had persisted until now as the creed of humanity."

"I don't like irony," she said; "it indicates a small soul."

"What other sort of soul, then, would you expect from 'a comic little figure hopping from the cradle to the grave?'" I inquired. "And what difference does it make, anyway, what you like and what you don't like? You are here for but an instant, and you mustn't take yourself too seriously."

She looked up at me with a smile. "I imagine that I am frightened and blue," she said, "and I know that I am very, very homesick and lonely." There was almost a sob in her voice as she concluded. It was the first time that she had spoken thus to me. Involuntarily I laid my hand upon hers where it rested on the rail.

"I know how difficult your position is," I said; "but don't feel that you are alone. There is—is one here who—who would do anything in the world for you," I ended lamely. She did not withdraw her hand, and she looked up into my face with tears on her cheeks and I read in her eyes the thanks her lips could not voice. Then she looked away across the weird moonlit landscape and sighed. Evidently her new-found philosophy had tumbled about her ears, for she was seemingly taking herself seriously. I wanted to take her in my arms and tell her how I loved her, and had taken her hand from the rail and started to draw her toward me when Olson came blundering up on deck with his bedding.

The following morning we started building-operations in earnest, and things progressed finely. The Neanderthal man was something of a care, for we had to keep him in irons all the time, and he was mighty savage when approached; but after a time he became more docile, and then we tried to discover if he had a language. Lys spent a great deal of time talking to him and trying to draw him out; but for a long while she was unsuccessful. It took us three weeks to build all the houses, which we constructed close by a cold spring some two miles from the harbor.

We changed our plans a trifle when it came to building the palisade, for we found a rotted cliff near by where we could get all the flat building-stone we needed, and so we constructed a stone wall entirely around the buildings. It was in the form of a square, with bastions and towers at each corner which would permit an enfilading fire along any side of the fort, and was about one hundred and thirty-five feet square on the outside, with walls three feet thick at the bottom and about a foot and a half wide at the top, and fifteen feet high. It took a long time to build that wall, and we all turned in and helped except von Schoenvorts, who, by the way, had not spoken to me except in the line of official business since our encounter—a condition of armed neutrality which suited me to a T. We have just finished it, the last touches being put on today. I quit about a week ago and commenced working on this chronicle of our strange adventures, which will account for any minor errors in chronology which may have crept in; there was so much material that I may have made some mistakes, but I think they are but minor and few.

The Neanderthal Man has a Language

I SEE in reading over the last few pages that I neglected to state that Lys finally discovered that the Neanderthal man possessed a language. It is very meager, but still it is a spoken language. She has learned to speak it, and so have I, to some extent. It was he—his name he says is Am, or Ahm—who told us that this country is called Caspak. When we asked him how far it extended, he waved both arms about his head in an all-including gesture which took in, apparently, the entire universe. He is more tractable now, and we are going to release him, for he has assured us that he will not permit his fellows to harm us. He calls us Galus and says that in a short time he will be a Galu. It is not quite clear to us what he means. He says that there are many Galus north of us, and that as soon as he becomes one he will go and live with them.

Ahm went out to hunt with us yesterday and was much impressed by the ease with which our rifles brought down antelope and deer. We have been living upon the fat of the land, Ahm having shown us the edible fruits, tubers and herbs, and twice a week we go out after fresh meat. A certain proportion of this we dry and store away, for we do not know what may come. Our drying process is really smoking. We have also dried a large quantity of two varieties of cereal which grow wild a few miles south of us. One of these is a giant Indian maize—a lofty perennial often fifty and sixty feet in height, with ears the size of a man's body and kernels as large as your fist. We have had to construct a second store house for the great quantity of this that we have gathered.

September 3, 1916: Three months ago today the torpedo from the *U-33* started me from the peaceful deck of the American liner upon the strange voyage which had ended here in Caspak. We have settled down to an acceptance of our fate, for all are convinced that none of us will ever see the outer world again. Ahm's repeated assertions that there are human beings like ourselves in Caspak have roused the men to a keen desire for exploration. I sent out one party last week under Bradley. Ahm, who is now free to go and come as he wishes, accompanied them. They marched about twenty-five miles due west, encountering many terrible beasts and reptiles and not a few manlike creatures whom Ahm sent away. Here is Bradley's report of the expedition:

Marched fifteen miles the first day, camping on the bank of a large stream which runs southward. Game was plentiful and we saw several varieties which we had not before encountered in Caspak. Just before making camp we were charged by an enormous woolly rhinoceros, which Plesser dropped with a perfect shot. We had rhinoceros-steaks for supper. Ahm called the thing "Atis." It was almost a continuous battle from the time we left the fort until we arrived at camp. The mind of man can scarce conceive the plethora of carnivorous life in this lost world; and their prey, of course, is even more abundant.

The second day we marched about ten miles to the foot of the cliffs. Passed through dense forests close to the base of the cliffs. Saw manlike creatures and a low order of ape in one band, and some of the men swore that there was a white man among them. They were inclined to attack us at first; but a volley from our rifles caused them to change their minds. We scaled the cliffs as far as we could; but near the top they are absolutely perpendicular without any sufficient cleft or protuberance to give hand or foothold. All were disappointed, for we hungered for a view of the ocean and the outside world. We even had hope that we might see and attract the attention of a passing ship. Our exploration has determined one thing which will probably be of little value to us and never heard of beyond Caprona's walls—this crater was once entirely filled with water. Indisputable evidence of this is on the face of the cliffs.

Our return journey occupied two days and was as filled with adventure as usual. We are all becoming accustomed to adventure. It is beginning to pall on us. We suffered no casualties and there was no illness.

I had to smile as I read Bradley's report. In those four days he had doubtless passed through more adventures than an African big-game hunter experiences in a lifetime, and yet he covered it all in a few lines. Yes, we are becoming accustomed to adventure. Not a day passes that one or more of us does not face death at least once. Ahm taught us a few things that have proved profitable and saved us much ammunition, which it is useless to expend except for food or in the last recourse of self-preservation. Now when we are attacked by large flying reptiles we run beneath spreading trees; when land carnivora threaten us, we climb into trees; and we have learned not to fire at any of the dinosaurs unless we can keep out of their reach for at least two minutes after hitting them in the brain or spine, or five minutes after puncturing their hearts—it takes them so long to die. To hit them elsewhere is worse than useless, for they do not seem to notice it, and we had discovered that such shots do not kill or even disable them.

September 7, 1916: Much has happened since last I wrote. Bradley is away again on another exploring expedition to the cliffs. He expects to be gone several weeks and to follow along their base in search of a point where they may be scaled. He took Sinclair, Brady, James, and Tippet with him. Ahm has disappeared. He has been gone about three days; but the most startling thing I have to record is that von Schoenvorts and Olson while out hunting the other day discovered oil about fifteen miles north of us beyond the sandstone cliffs. Olson says there is a geyser of oil there, and von Schoenvorts is making preparations to refine it. If he succeeds, we shall have the means for leaving Caspak and returning to our own world. I can scarce believe the truth of it. We are all elated to the seventh heaven of bliss. Pray God we shall not be disappointed.

I have tried on several occasions to broach the subject of my love to Lys; but she will not listen.

CHAPTER VII

OCTOBER 8, 1916: This is the last entry I shall make upon my manuscript. When this is done, I shall be through. Though I may pray that it reaches the haunts of civilized man, my better judgment tells me that it will never be perused by other eyes than mine, and that even though it should, it would be too late to avail me. I am alone upon the summit of the great cliff overlooking the broad Pacific. A chill south wind bites at my marrow, while far below me I can see the tropic foliage of Caspak on the one hand and huge icebergs from the near Antarctic upon the other. Presently I shall stuff my folded manuscript into the thermos bottle I have carried with me for the purpose since I left the fort—Fort Dinosaur we named it—and hurl it far outward over the cliff-top into the Pacific. What current washes the shore of Caprona I know not; whither my bottle will be borne I cannot even guess; but I have done all that mortal man may do to notify the world of my whereabouts and the dangers that threaten those of us who remain alive in Caspak—if there be any other than myself.

About the 8th of September I accompanied Olson and von Schoenvorts to the oil-geyser. Lys came with us, and we took a number of things which von Schoenvorts wanted for the purpose of erecting a crude refinery. We went up the coast some ten or twelve miles in the *U-33*, tying up to shore near the mouth of a small stream which emptied great volumes of crude oil into the sea—I find it difficult to call this great lake by any other name. Then we disembarked and went inland about five miles, where we came upon a small lake entirely filled with oil, from the center of which a geyser of oil spouted.

On the edge of the lake we helped von Schoenvorts build his primitive refinery. We worked with him for two days until he got things fairly well started, and then we returned to Fort Dinosaur, as I feared that Bradley might return and be worried by our absence. The *U-33* merely landed those of us that were to return to the fort and then retraced its course toward the oil-well. Olson, Whitely, Wilson, Miss La Rue, and myself disembarked, while von Schoenvorts and his German crew returned to refine the oil. The next day Plesser and two other Germans came down overland for ammunition. Plesser said they had been attacked by wild men and had exhausted a great deal of ammunition. He also asked permission to get some dried meat and maize, saying that they were so busy with the work of refining that they had no time to hunt. I let him have everything he asked for, and never once did a suspicion of their intentions enter my mind. They returned to the oil-well the same day, while we continued with the multitudinous duties of camp life.

For three days nothing of moment occurred. Bradley did not return; nor did we have any word from von Schoenvorts. In the evening Lys and I went up into one of the bastion towers and listened to the grim and terrible night-life of the frightful ages of the past. Once a saber-tooth screamed almost beneath us, and the girl shrank close against me. As I felt her body against mine, all the pent love of these three long months shattered the bonds of timidity and conviction, and I swept her up into my arms and covered her face and lips with kisses. She did not struggle to free herself; but instead her dear arms crept up about my neck and drew my own face even closer to hers.

"You love me, Lys?" I cried.

I felt her head nod an affirmative against my breast. "Tell me, Lys," I begged, "tell me in words how much you love me."

Low and sweet and tender came the answer: "I love you beyond all conception."

My heart filled with rapture then, as it fills now as it has each of the countless times I have recalled those dear words, as it shall fill always until death has claimed me. I may never see her again; she may not know how I love her—she may question, she may doubt; but always true and steady and warm with the fires of love my heart beats for the girl who said that night: "I love you beyond all conception."

For a long time we sat there upon the little bench constructed for the sentry that we had not as yet thought it necessary to post in more than one of the four towers. We learned to know one another better in those two brief hours than we had in all the months that had intervened since we had been thrown together. She told me that she had loved me from the first, and that she never had loved von Schoenvorts, their engagement having been arranged by her aunt for social reasons.

That was the happiest evening of my life; nor do I ever expect to experience its like; but at last, as is the way of happiness, it terminated. We descended to the compound, and I walked with Lys to the door of her quarters. There again she kissed me and bade me good night, and then she went in and closed the door.

An Awful Disappearance. More Treachery

I WENT to my own room, and there I sat by the light of one of the crude candles we had made from the tallow of the beasts we had killed, and lived over the events of the evening. At last I turned in and fell asleep, dreaming happy dreams and planning for the future, for even in savage Caspak I was bound to make my girl safe and happy. It was daylight when I awoke. Wilson, who was acting as cook, was up and astir at his duties in the cook-house. The others slept; but I arose and followed by Nobs went down to the stream for a plunge. As was our custom, I went armed with both rifle and revolver; but I stripped and had my swim without further disturbance than the approach of a large hyena, a number of which occupied caves in the sandstone cliffs north of the camp. These brutes are enormous and exceedingly ferocious. I imagine they correspond with the cave-hyena of prehistoric times. This fellow charged Nobs, whose Capronian experiences had taught him that discretion is the better part of valor—with the result that he dived head foremost into the stream beside me after giving vent to a series of ferocious growls which had no more effect upon *Hyaena spelaeus* than might a sweet smile upon an enraged tusker. Afterward I shot the beast, and Nobs had a feast while I dressed, for he had become quite a raw-meat eater during our numerous hunting expeditions, upon which we always gave him a portion of the kill.

Whitely and Olson were up and dressed when we returned, and we all sat down to a good breakfast. I could not but wonder at Lys's absence from the table, for she had always been one of the earliest risers in camp; so about nine o'clock, becoming apprehensive lest she might be indisposed, I went to the door of her room and knocked. I received no response, though I finally pounded with all my strength; then I turned the knob and entered, only to find that she was not there. Her bed had been occupied, and her clothing lay where she had placed it the previous night upon retiring; but Lys was gone. To say that I was distracted with terror would be to put it mildly. Though I knew she could not be in camp, I searched every square inch of the compound and all the buildings, without avail.

It was Whitely who discovered the first clue—a huge human-like footprint in the soft earth beside the spring, and indications of a struggle in the mud. Then I found a tiny handkerchief close to the outer wall. Lys had been stolen! It was all too plain. Some hideous member of the ape-man tribe had entered the fort and carried her off. While I stood stunned and horrified at the frightful evidence before me, there came from the direction of the great lake an increasing sound that rose to the volume of a shriek. We all looked up as the noise approached apparently just above us, and a moment later there followed a terrific explosion which hurled us to the ground. When we clambered to our feet, we saw a large section of the west wall torn and shattered. It was Olson who first recovered from his daze sufficiently to guess the explanation of the phenomenon.

"A shell!" he cried. "And there ain't no shells in Caspak besides what's on the *U-33*. The dirty Germans are shellin' the fort. Come on!" And he grasped his rifle and started on a run toward the lake. It was over two miles, but we did not pause until the harbor was in view, and still we could not see the lake because of the sandstone cliffs which intervened. We ran as fast as we could around the lower end of the harbor, scrambled up the cliffs and at last stood upon their summit in full view of the lake. Far away down the coast, toward the river through which we had come to reach the lake, we saw upon the surface the outline of the *U-33*, black smoke vomiting from her funnel.

Von Schoenvorts had succeeded in refining the oil! The cur had broken his every pledge and was leaving us there to our fates. He had even shelled the fort as a parting compliment; nor could anything have been more truly Prussian than this leave-taking of the Baron Friedrich von Schoenvorts.

Olson, Whitely, Wilson, and I stood for a moment looking at one another. It seemed incredible that man could be so perfidious—that we had really seen with our own eyes the thing that we had seen; but when we returned to the fort, the shattered wall gave us ample evidence that there was no mistake.

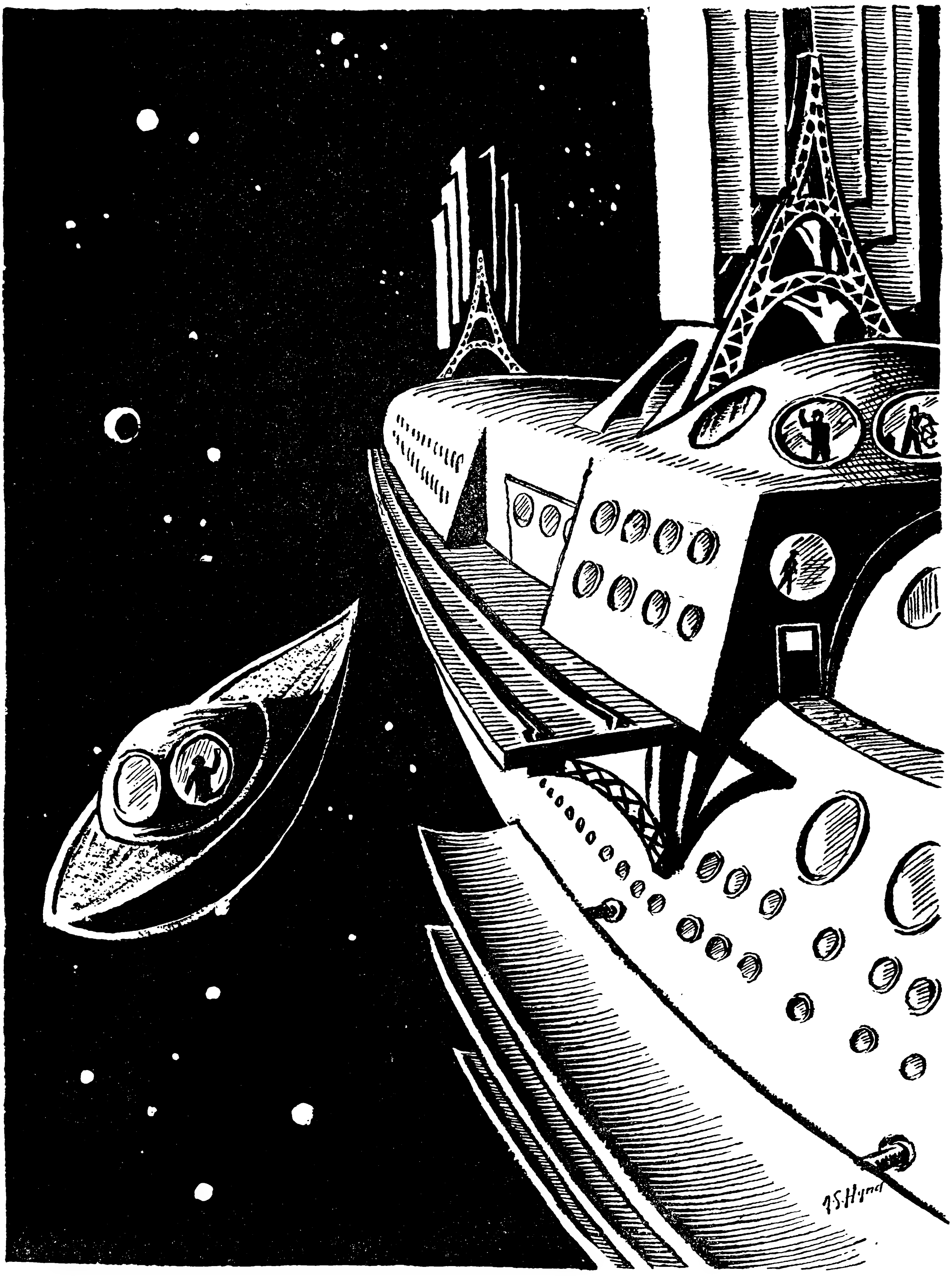
Then we began to speculate as to whether it had been an ape-man or a Prussian that had abducted Lys. From what we knew of von Schoenvorts, we would not have been surprised at anything from him; but the footprints by the spring seemed indisputable evidence that one of Caprona's undeveloped men had borne off the girl I loved.

As soon as I had assured myself that such was the case, I made my preparations to follow and rescue her. Olson, Whitely, and Wilson each wished to accompany me; but I told them that they were needed here, since with Bradley's party still absent and the Germans gone it was necessary that we conserve our force as far as might be possible.

END OF PART I

ON *the* MARTIAN WAY

By Capt. H. G. Bishop, U.S.A.



. . Both men were conscious of a perceptible jar. The shining life-boat silently parted from the Trenton's stern and floated gracefully away. **They watched it as it slowly gathered headway, moving always on, on . . .**

Starting a Ship to Mars

THE New York office force of the R. D. Jones Co. caught its breath in a gasp of astonishment when it was announced that Captain Goff was to take out the *Columbia* with passengers only. Even the superintendent seemed ashamed of the directors' decision, for he had sent the word scribbled on a slip of paper out to old Williams, the veteran chief clerk, and had then promptly gone off by the way of his private entrance.

Williams read the note with rapidly rising indignation; and broke up the office routine for a full thirty minutes, while he raged about the room, alternately denouncing the superintendent, the president and the board of directors, and assailing luckless clerks for stopping work to listen to him.

"Why," he cried, "old R. D. would turn over in his grave if he knew how these boys were running the company into the ground. It was bad enough when they commenced fillin' up empty cargo space with furniture, vegetables and dry-goods, but now turnin' the *Columbia* into a passenger boat! A man-hauler! And not ordinary, healthy passengers with sound legs and good digestions, but a lot of consumptives, anæmics, and sick babies, raked up from the East Side, on account of"—here referring to the superintendent's note—"on account of the New York *Eagle's* Fresh Air Fund. Wish old R. D. was here for about five minutes." And then he added most prophetically, "It's bad business this haulin' of passengers and the company'll regret it."

The R. D. Jones Co. was a fast freight line making weekly sailings to Mars from their Westchester station. The older Jones, long since gathered to his forefathers, had begun life as a clerk on a Lunar tramp, graduating from that to purser on a Martian oil boat. Being naturally a keen observer he soon discovered that while the people of Mars were particularly partial to mutton, the genus sheep failed to thrive on that husky planet. Those were the days when concessions were being granted right and left, and upon his second return to the Earth, after this important discovery, young Jones brought back such valuable iron-clad rights to certain trade privileges that a fast freight line carrying outward-bound refrigerated meat and returning either in ballast or fruit-laden, was put into being by New York capitalists. From the two old tramp tubs originally leased the "Mutton Run" had grown to a corporation, owning outright thirty boats and leasing a score more.

IF some one had taken it into his head to write a story three hundred years ago about our present-day palatial steamships, some of which can carry 5,000 human beings, across the Atlantic in five or six days, he probably would have been beheaded or burned at the stake. What sort of vehicles may be used several hundred years hence to convey us from one planet to another? The dramatic story unfolded by the author here can not fail to grip you. It is not only prophetic, you can actually feel the reality of it as you proceed with it.

But hard times come, even to corporations as wealthy and powerful as the R. D. Jones Co. Some of the concessions were now expiring and the profits had been horribly mutilated. Martians, too, seemed to be losing their appetites for American meat, and the R. D. Jones Co. was now bidding for other classes of freight at ridiculous margins. Then, to cap the climax, the *Montezuma* and the *Princess Irene*, two immense, brand-new boats, carrying valuable cargoes and running neck and neck, outward bound, had dashed, head on, into an unpredicted meteoric shower and had gone to join the vast congregation of inter-stellar derelicts.

A Martian Freighter for Passengers

SO, although it was a mighty departure from a policy now well-nigh a century old, the directors had decided that instead of putting the *Columbia* out of commission, they would charter her to the *Eagle* for at least one passenger run, and notwithstanding old Williams, busy workmen were soon transforming her cargo compartments into dormitories and hospital wards.

The chief dispatcher of the R. D. Jones Co. was one Winston, a clean-cut, steady-going man, just turned thirty, for whom great things were predicted by his friends, for nature had endowed him with a reasoning ability and a genius for mathematics far above the ordinary. Furthermore, he was a direct descendant of the great Sir Francis Winston who had first expounded and proved that the gravitational attraction of any mass had characteristics peculiarly its own; and that just as certain substances arrest certain colors of the spectrum and permit others to pass through, certain magnetic fields could be created which were impermeable to the attraction of certain masses, though uninfluencing that of others; thus first rendering interplanetary passage possible.

On the fifteenth of October the *Columbia* was reported ready, and on the eighteenth Winston received his instruction from the traffic manager:

> Prepare sailing data for the *Columbia*, to be launched about noon on the 20th inst., for through run to Nekhoboh, planet Mars. Full speed from atmosphere to atmosphere. No cargo. Passengers only.

He was too busy that day to attend to the matter, for the *Chryse*, an ancient Jones tub, inward bound with a heavy cargo, was having trouble with Venus, and some rapid calculations and appropriate orders for her anxious skipper, who was keeping the receiver hot with appeals for help, were needed, to keep that planet from adding another satellite to her train.

At last Winston slammed down the covers on the two computing machines and was reaching for his coat when the messenger handed him two envelopes. One was official, a radiogram addressed to the Chief Dispatcher of the R. D. Jones Co. He tore it open and read.

> October 19th.
>
> National Observatory, Himalaya Peaks.
>
> To all Interplanetary Dispatchers:
>
> Nebulous matter first observed and reported by Captain Clarke of the *Juno*, U. S. Mail and Express Line, on October 7th, when fourteen days out of Jupiter, is supposed to be Biela's

comet reunited. Exact data as to orbit will be sent out at ten o'clock to-night. First trial calculations show that this body will strongly affect Martian routes from November 15th to 20th.

DE SAUSSURE.

"The devil!" Winston gasped. "It means calculating over again the whole of the second leg. However, that can be done tomorrow forenoon." He thrust the radiogram into his pocket and started for the door opening the other envelope, which was addressed to him personally in a woman's bold, black handwriting.

Conditions for Planetary Navigation

THERE wasn't much in the note. Winston read it almost at a glance, but the light suddenly died out of his eyes and in its place came a frightened, hunted look; his face turned an ashy white; things seemed to whirl about him and then grow black. Some one gave him water, and he stumbled out into the light of the setting sun with unseeing eyes.

It was the old story of those who love and are loved by woman. A high-spirited girl, brooding over a fancied inattention; a sleepless night; a hastily penned note ending all for ever.

Just what he did that night Winston never knew. At the trial they testified that he had come into the club about ten o'clock. Somebody had won on the aerial races that afternoon and was buying champagne, and Winston drank, drank, drank, until friends knowing his usual temperate habits had put him to bed. They testified also that he had written a receipt for a radiogram about eleven o'clock, giving the details of the comet's orbit.

All that night an army of workmen swarmed in and over the hull of the *Columbia*, giving her the finishing touches for her flight, and at daybreak their places were taken by another shift.

At ten o'clock Winston came in and mechanically sat down at his desk, pale, heavy-eyed, his mind a blank. His first assistant handed him the sailing orders and together they rechecked the calculations. The computations balanced; and the instructions for laying the different courses were concise and clear.

"We haven't missed anything, have we?" he asked, passing a trembling hand across his hot, dry forehead. "Something seems to tell me that there is an error somewhere."

"Error!" sniffed the assistant. "We don't make errors here."

Winston took the neatly typed sheets and walked out into the main office where old Captain Goff was talking earnestly with the second vice-president, a smug-faced German Jew, who was in charge of the company's communication system.

The Interplanetary Ship Ready to Start

"DON'D you vorry, gapting," he was saying, "dose radio receivers will vork like all get oudt shust as soon as you glear der earth's atmosvere. Don'd vorry, de vill be O. K."

"But remember, Mr. Oldstein," the captain added, gently stroking his long white beard and fixing his deep blue eyes anxiously on the Jew's shifting gaze—"remember I carry passengers this trip, and I would feel greatly relieved if you would have De Muth & Co. send up one of their experts to take a look at them."

"Vot! Und delay der sailing!" exclaimed the second vice-president. "Und vot you t'ink dem eggsperts cost? Vun t'ousand dollars! Ach! But here is Meester Vinston mit der orders. Goot-by, gapting."

The old man smiled sadly at the departing official and turned to Winston, grasping his hand and glancing benignantly at him over the gold rims of his spectacles as he took the orders and read them through aloud, as required by law, and affixed his signature to the retained copy in token of understanding.

"It has always been my desire," said the captain in his deep, solemn voice—a voice that seemed to have acquired some peculiar magnetic quality from the unfathomable depths of the ever-mysterious voids between the worlds in which he had spent almost half of his three score years—"to some day command a passenger boat; and it has pleased the good Lord to gratify at last my worldly wishes in a manner far surpassing my fondest dreams, for what could be greater or grander than to command a boat filled with these poor unfortunates? God grant us a safe and speedy voyage."

The grand old man bade an affectionate farewell to the office force from old Williams down to the office boys and messengers; and with Winston walked over to the launching cradles.

A few belated passengers were hurrying aboard, and the decks of the *Columbia* still open to the sunshine were teeming with life.

Hunchbacks and dwarfs, their little beady eyes glistening with excitement, gazed eagerly about; consumptives and asthmatics lined the rails, their faces reflecting the hope of a speedy cure in the rarified Martian atmosphere; babies of all colors and nationalities, some sitting quietly content or speechlessly frightened, others loudly wailing, and a few clapping diminutive hands and kicking tiny feet to the time of the big band up forward on the observation deck. Two little Martian orphans, going back to relatives, a boy and a girl, each clasping a hand of their special nurse, were dancing boisterously around her, their big pearshaped heads, stocky chests and pipestem legs contrasting strangely with the other children. Off to one side a group of bored doctors were trying to retort amiably to the raillery of friends in the yards below.

The old man bade a cheery good-by, and mounting to the pilot bridge, stood for a moment looking backward over his boat, his long white hair waving in the gentle spring breeze. Then he gave a signal and the lights flared up over the vessel, hull shutters slid suddenly into place, and the craft was sealed up for her long flight through the heavens.

Winston never forgot that morning, brain-clouded though he was. The great black hull of the *Columbia*, with her white-haired captain up forward at his post; and the pitiful unfortunates swarming her decks; the sudden obliteration of the scene as the shutters closed over it was indelibly imprinted on his imagination. There was a turning and grinding of the great motors at the rear of the cradle as they worked the gravitation screens under the vessel, one from the front and one from the rear; then, as the Earth's attraction reluctantly gave up its grip on the mighty mass of iron and steel gouged from her own vitals, it slowly rose, level keeled, until its stern butted against the top girders of the cradle. He remembered the loose ends of several cables, knocked over on the screens, suddenly rose uncannily and stood straight up, serpent-like in the air. A careless workman had left a pipe-wrench lying on the framework, and it had suddenly leaped upward, banged against the hull, danced around a moment like a thing possessed, then sliding swiftly up along the sloping side, had shot off into space. Winston remembered he had laughed, when the wrench started on its journey. But the laugh had died on his lips. There was something queer about this launching. He had felt it vaguely all morning and it recurred then with added intensity.

The Columbia On Her Way

As the yard master, high up on the launching deck of the cradle, shouted his directions to the operators at the motors, in response to the captain's signals, Winston closed his eyes, and his brilliant mind, drink-clouded though it was, went far out into space, going over again, step by step, the calculations for the flight. There was no mistake in the figures, but something was wrong. He started toward the yard master's station to stop the launching. He even cried out. But he was too late.

Twelve minutes later the Westchester station radiograph receivers picked up Captain Goff's message, saying that he had safely cleared the Earth's atmosphere, had rigged all his earth screens and thanks to the greedy attraction of the sun and two handy planets, her nose was set to the proper point on the celestial sphere and she was bowling along the first leg at seventy miles a second.

At three o'clock that afternoon the first assistant in the Dispatcher's Department found the De Saussure radiograms lying on Winston's desk, read them, hastily recalculated the second leg and rushed white-faced into the traffic manager's office.

"What's that you were saying?" demanded the traffic manager whirling about in his swivel chair and facing the breathless computer.

"Simply this," returned the man, controlling himself with difficulty, "I just found these radiograms on Mr. Winston's desk, reporting the reappearance of Bela's comet, with an orbit intersecting the Martian routes about November 15th. For some reason Winston had forgotten them and the *Columbia* is off with sailing orders that will run her plump into the comet's mass if she isn't held back."

"Hell!" exclaimed the traffic manager, springing to his feet. "Where's Winston?"

"Don't know," replied the computer. "Haven't seen him since the sailing. He got a letter last night that seemed to upset him and he acted dippy all morning."

It is unnecessary to recite in detail all that occurred during the next three weeks. Old and middle-aged persons will recall that the papers talked of little else, and that the civilized worlds of three planets followed day by day the course of the white-haired skipper and his boatload of 1,800 happy, excited women, children and the Earth's unfortunates, speeding through the black night of the imponderable ether to their sure destruction. Nor is it necessary to again tell how sweating, heat-blistered engineers at every interplanetary radiograph station on three planets, stood by their generators, until they were carried out unconscious, speeding up their machines, to the calls of set-faced operators for higher voltage, as they hurled radiogram after radiogram out into space, under a pressure that damaged receivers on boats as far away as Jupiter but which failed to excite the wornout and leaky induction coils of the *Columbia's* instruments. Day after day, regularly at the twelfth hour, came the punctilious, diurnal "report of progress" from Captain Goff, for his sending apparatus was working beautifully, and day after day as he reported another six million miles put astern of the *Columbia's* flaming tail-lights, the worlds shuddered with renewed horror.

A Comet Disturbs the Course of the Columbia

Winston was found early on the morning after the sailing, wandering the streets, still dazed and unknowing, and he was taken to the Tombs, where two companies of Federal troops were guarding him from an East Side mob. Here also, soon came Oldstein, for with the *Eagle* in the lead, the press and populace were frantic for the blood of those persons held responsible.

On the 4th of November Captain Goff reported successfully that he had turned the "angles."

On the 6th he reported by heliocentric coordinates the appearance of a strange, luminous mass, which, so he had calculated, was moving in a path likely to carry it across his own. On the 8th he was evidently ill at ease, for he apologetically referred to the inability of his subordinates to get the receiving apparatus in order, and again referred to the unknown mass coming upon him. His "progress report" showed that he had diminished speed.

On the 9th he reported that the *Columbia* was "wobbling," apparently under the influence of the comet, as he had now determined that body to be; that he had reversed and rigged screens to hold her steady. Two hours later he sent another message that the *Columbia* was drifting from her course. Another hour and he "regretted to report that he could no longer keep her head up." Short, sharp messages they were, indicating that the old man was using every resource to avoid the danger and was wasting little time over the radiograph.

The Last Message from the "Columbia"

At twenty minutes past two on the morning of the 10th of November Captain Robert Goff's last message began to spark from the induction coils at the Westchester station.

"I regret to report that at two minutes past midnight I lost control of the *Columbia*, notwithstanding gallant efforts on part of the crew, and that she is now falling into the comet at a frightful velocity. The celestial sphere ahead of us is a mass of flame. Temperature in pilot-bridge compartment 107° F. and increasing rapidly. Outer skin of hull in danger. Crew standing by their posts nobly, though all realize case is hopeless. Passengers informed of danger. Doctors and nurses doing nobly allaying panic. * * * Regret report many weaker adults and children suffocating. * * * Gregg taking observation on comet reports brilliant sodium and magnesium markings. * * * Potassium visible. * * * Temperature 125. * * * May God have mercy on our souls and comfort * * * leave behind us. * * * Gregg says platin——"

Here the receiver gave a final gasp and the spark died away.

The trial came soon and was pushed to a speedy finish, but all too slowly for an insistent press and an almost riotous populace. Without leaving their seats, the jury found Winston guilty of criminal carelessness, and the Judge said: "Fifteen years." The second vice-president was given ten years.

Every night when the turnkey closed his cell door, Winston's spirit went out and rode hour after hour along the Milky Way in the blistered, heat-warped hull of the *Columbia.* Sometimes he rode in the pilot bridge compartment with a gentle, silent old man, who was forever straining ahead with a sextant to his eye; sometimes below, where a phantom crew was eternally struggling with gravitation screens.

* * * * * *

Winston shook hands silently with the warden and walked dumbly out of the penitentiary. He had two years yet to serve and the pardon was a total surprise to him. They had not taken him out to work that morning, but had almost immediately given him a suit of civilian's clothes, told him to dress, and opened the gates to him. He was free. Free to work or idle as he chose; to come and go at his will; to eat and drink the things he liked. How often in the long thirteen years of his confinement he had pictured this moment!

But now that the time had actually come he felt old and oppressed, infinitely old; his steps were heavy and slow, like those of a man carrying a weight.

For a month Winston wandered about lower New York, glutting himself with all manner of excesses and wonderingly surveying the changes that had occurred during his thirteen years' absence; but his money was running low, and clearly he must go to work. But where? There was only one business of which he knew anything and his soul revolted at the thought of ever again seeing an interplanetary vessel. Yet in the end he found himself up at the Three Hundred and Fortieth Street yards of the Mercantile Company sharing the subdued excitement that always existed about such places.

Pardoned Prisoner Offers Himself as Radio Operator

THE vast concourse sheltered a busy crowd, for not only was the *Trenton* sailing for Mars that forenoon, but a Jupiter liner was due at any moment. Winston worked his way through the throng to the dispatcher's office and gazed longingly in at the scene of activity. From the flashes of the radiograph receiver he made out that a Hamburg firm was asking permission for one of their liners, which had met with some mishap, to drop back into the Mercantile Company's cradles for repairs. He saw her in a few minutes, a gradually growing blur in the heavens, that soon resolved itself into one of the big, fat, snub-nosed boats so indicative of German construction, her cautious Teutonic skipper dropping her gently, a hundred feet at a time, between pauses.

Winston saw two persons within the dispatcher's office whom he took to be chief dispatcher and the traffic manager, in serious conversation.

"And you've only got two radiograph operators aboard the *Trenton?*" the traffic manager was asking.

"Yes," answered the chief dispatcher, "not another operator in New York to be had for love or money."

"It won't do, it won't do," snarled the manager. "The *Trenton* must sail at noon and you've got to get another man. You know the law requires three." And he stalked out of the office.

Winston waited for no more, but bolted inside and over to the dispatcher's desk.

"I can operate a radiograph, and I want a job," he said, when the dispatcher looked up at him.

"Who're you?" he demanded.

"I'll tell you in your private office," Winston answered.

Thirty minutes later he was aboard the *Trenton,* and had scarce time to stow away a few articles of clothing he had picked up from nearby shops, when a sudden lightness in his legs and a lack of weight in the suitcase he held in his hand told him that the boat was sealed, and that the gravitation screens were in place, while the sudden succeeding rise in temperature gave evidence that the craft was under way and scudding through the thin layer of the Earth's atmosphere at a rate that was warming her hull to a bright red.

The radiographs were located in a little compartment just aft the pilot-bridge rooms, and Winston soon picked up all the details of the course. The work was not heavy, and hour after hour, during his tours of duty, he stood in the doorway of the instrument room, watching the deck officers taking the angles of the various celestial bodies noted in their sailing orders as markers. He heard the low spoken orders to the quartermasters at the controllers to shift the screens this way and that way until the thirty thousand tons of steel had been steadied to its course after some far-off mass had caught her in the relentless grip of its gravitation and sucked her a hundred thousand miles from her computed path before their watchful eyes could detect the diversion. And thus day by day with ever-increasing velocity the *Trenton* put the Earth behind her; and Mars stood out bright and clear, with a rapidly growing parallax amid the multitude of heavenly bodies.

They were routed for the passage in twenty-eight days, but on the twentieth day Winston, sitting moodily over his instruments, heard voices on the bridge pitched a little higher than usual. He went to the door and looked up. The captain and most of the officers were there and appeared to be making simultaneous observations on some of the fixed stars. For an hour they worked, shifting the screens, taking observations, making computations. Then the captain spoke:

A Life Sacrificed to Save the Martian Ship

"GENTLEMEN, we are hung up on the neutral. But not one word of this anywhere in the boat but here on the bridge."

Winston understood and smiled grimly. Faulty calculations had routed the *Trenton* closer to the Sun than the power of her Sun screens warranted, and that great incandescent mass had seized her in a relentless grip and was holding her powerless and immovable against the pull of the planet, like a fly in a spider web, but so nicely balanced that the feeble strength of a little child against her big hulk would again put her in the friendly grasp of the planet.

But what did he care? He felt that he might as well die now as live the life of a pariah. He found himself wishing that the generators would fail for one brief instant and the full power of the Sun come tearing through the frail network of wires, whose magnetic vitality was holding him at bay, and suck them down into his fiery abyss.

For forty-eight hours the *Trenton's* engineers struggled manfully in an effort to cut off even an ounce of the back pull; then they gave it up, staring hopelessly at the whirring dynamos that alone were keeping them from a swift and fiery death.

Things were getting serious. No word of the predicament had as yet reached the passengers, but some Yale students aboard, had been amusing themselves and improving their astronomy by taking observations with an old sextant and they suddenly announced that the boat was standing still so far as Mars was concerned, notwithstanding the bogus daily runs, hung out as usual in the saloon, and people were holding up the officers and asking embarrassing questions.

Then a wild idea came into Winston's head as he hammered out a despairing message for the captain. The more he thought of it the more he liked it. When his "relief" came he walked down one of the gangways and out on the balcony above the passengers' dining-room. It was the dinner hour and the passengers were at the tables. Men in evening clothes and women in all the splendor of the modiste's art were talking and laughing, all unconscious that death in its most horrible form was lurking only a few inches beyond the upholstered walls. Dark-skinned waiters in the liner's gorgeous livery darted here and there in well-ordered precision.

On the platform, at the forward end of the room, half concealed by swaying silken portiéres and mammoth palms, the orchestra was discoursing some weird Martian melody. Over all, the hundreds of incandescent lamps shed a soft pale light, reflected in a thousand scintillating brilliant points from shining silver, glass and wonderful jewelled ornaments.

He passed on and out over the saloon. In one corner a fair-haired girl and youth sat in silent happiness watching the amusing gesticulations of a big Martian professor expounding his theory of the fourth dimensions to a group of the Yale men.

Winston turned back into the gangway and peered out through one of the heavily glazed ports into the inky blackness of space. He shuddered as he thought of the awful cold, but as he looked he seemed to see flitting by a long black craft, a white-haired man peering through the forward conning pit, and he turned and walked rapidly to the captain's office, his jaws set and his eyes narrowed to tiny slits.

Three times he tried before he was admitted, but once within he remained an hour, and when he left the captain came out with him.

The Last Sacrifice

SHORTLY there was unusual activity below the passenger decks. All the heavy freight was slowly moved forward, and the tired engineers stood by their machines ready to speed them up for a last attempt to diminish the back pull. Even the passengers, on one pretext or another, were collected in the forward end of the boat, to lighten as much as possible that part of her pointing Sun-wards. Then Winston, the captain and the first officer silently made their way aft until they came to the ports leading to the lifeboats secured outside on the *Trenton's* hull. The annular cover of one of these ports was unscrewed. The two officers wrung Winston's hands silently but with fervor that made words unnecessary, and he disappeared into the dark cavity and the cover was replaced.

Through the after port they saw the metal case release its grip on the hull and slide slowly along the *Trenton's* back until it hung suspended in the illimitable void, directly in prolongation of her length, glistening with reflected light like a ball of fire. There was a pause of a few minutes, then both men were conscious of a perceptible jar. The shining life-boat silently parted from the *Trenton's* stern and floated gracefully away. They watched it as it slowly gathered headway, moving always on, on, towards where the Sun glowed, a blood-red orb, and both men stood, still, silent and thoughtful long after it was invisible to the eye. On the pilot bridge, the third officer suddenly dropped his sextant and exclaimed, "By the Lord! we are under way again."

The following is from the New York *Commercial Review*, a trade journal devoted to interplanetary traffic:

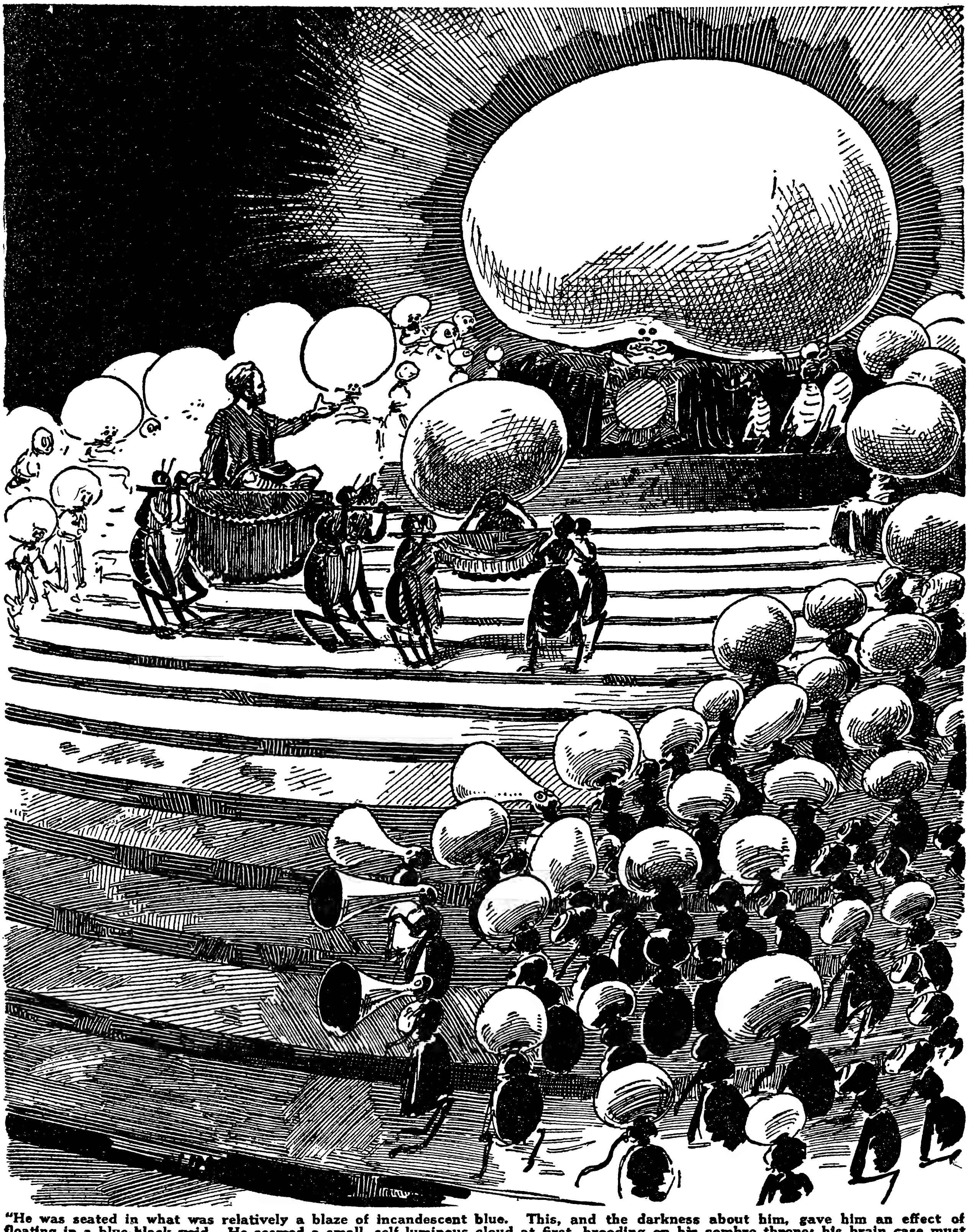
"We are informed that the International Astronomical Society has determined that the infinitesimal body lately discovered revolving as another satellite of Venus is the life-boat containing the remains of John R. Winston, who sacrificed himself to rescue the Mercantile (N. Y.) Company's passenger boat *Trenton*, last June by pushing her off when she lay stranded on the "neutral" between Mars and the Sun. The Society has named it Winstonius Venus (satellite fourteen). Muller computes its sidereal period 7 h. 14 m. 11.5 s. Dist. in equatorial radii of planet, 2.841; dist, in miles, 5,463."

THE END

The FIRST MEN *in the* MOON

By H.G. Wells

Author of "The Crystal Egg," "The Island of Dr. Moreau," etc.



"He was seated in what was relatively a blaze of incandescent blue. This, and the darkness about him, gave him an effect of floating in a blue-black void. He seemed a small, self-luminous cloud at first, brooding on his sombre throne; his brain case must have measured many yards in diameter. . . ."

What Went Before

BEDFORD, a writer, and at the time a financial bankrupt, goes off to a very secluded spot to write a play and so replenish some of his financial losses. But even there he cannot work undisturbed, for every day at the same hour, a Mr. Cavor passes by his house, stops, makes some strange buzzing sounds, stays awhile, looks at his watch, and returns to his own home. Bedford talks to him and stops this annoying procedure, but its cessation also stops Cavor's experimental work. Cavor confides this to Bedford, and in the course of the conversation, new plans and ideas are developed.

Mr. Cavor is a scientist and just now is working on a new invention, which he calls Cavorite and which material is supposed to be opaque to gravitation—cutting off bodies from gravitating to each other. Bedford becomes enthusiastic and agrees to forget his play and become "business manager" for Cavor and "Cavorite." The two start work together with renewed interest and energy.

Very soon after, Mr. Cavor hits upon the right formula and out of this accidental success, which very nearly cost them their lives and does cause thousands of dollars worth of damage, Cavor gets a new inspiration. He builds a space flyer, which proves to be a perfect conveyance for interplanetary travel. They go off to the moon, provisioned with plenty of condensed food and other necessary comforts for a long trip and arrive on the moon without any mishap, just before the Lunar dawn. Soon after they arrive the black and white of the scenery disappear, the glare of the sun takes on a faint tinge of amber and the sky becomes blue and clear. But still it seems like a lifeless world.

And then, suddenly, they see movement—little oval bodies that looked like pebbles—and in a short time, the whole slope is dotted with small plants, growing quickly into huge spikes and fleshy vegetation.

Cavor and Bedford both conclude that since there is some life on the moon, and since air is necessary for any kind of life, they might with relative safety emerge from their sphere. They decide to try it. Cavor jumps out first and lands some distance away. Bedford won't be outdone, so he makes an effort to reach Cavor. But he forgets to take cognizance of the difference in weight between the earth and the moon and he flies through the air much beyond Cavor's alighting point. They become so much absorbed in lunar locomotion, that they forget to observe the direction in which they travel and before long realize that they haven't the faintest idea as to the whereabouts of their sphere, which is completely hidden by the high spikes.

Following the sound of a gong, they come to the mooncalf pastures where they see colossal animals feeding, and soon after, having eaten of poisonous food, fall asleep and are captured by the Selenites. They wake to find themselves prisoners in a cave. They try to establish some form of intercourse with the Selenites, the lunar inhabitants, but fail, and it is when they are expected to cross over a cavernous pit on a narrow plank, that Bedford forgets the marvelous and stupendous things they had seen and fights his way free from these creatures, at the same time freeing Cavor.

Then starts their flight back to the upper regions where they meet and must battle with the Moon Butchers (also Selenites). Finally they reach the sunlight again.

THE FIRST MEN IN THE MOON

By H. G. WELLS

(Conclusion)

CHAPTER XIX'

Mr. Bedford Alone

IN a little while it seemed to me as though I had always been alone on the moon. I hunted for a time with a certain intentness, but the heat was still very great, and the thinness of the air felt like a hoop about one's chest. I came presently into a hollow basin bristling with tall, brown, dry fronds about its edge, and I sat down under these to rest and cool. I intended to stay for only a little while; I put down my clubs beside me, and sat resting my chin on my hands. I saw with a sort of colourless interest that the rocks of the basin, where here and there the crackling dry lichens had shrunk away to show them, were all veined and splattered with gold, that here and there bosses of rounded and wrinkled gold projected from among the litter. What did that matter now? A sort of languor had possession of my limbs and mind, I did not believe for a moment that we should ever find the sphere in that vast desiccated wilderness. I seemed to lack a motive for effort until the Selenites should come. Then I supposed I should exert myself, obeying that unreasonable imperative that urges a man before all things to preserve and defend his life, albeit he may preserve it only to die more painfully in a little while.

YOU will read with breathless interest the closing chapters of The First Men in the Moon. It is a story so at variance with what you are accustomed to read, even in imaginary scientifiction, that you will have a desire to re-read and then read the story again, when you finish it. It should be noted, when perusing the ending, that at the time this story was written wireless telegraphy was unknown. Marconi had not as yet made his epoch-making invention.

Of course today Mr. Wells' attempts at wireless telegraphy may read crudely, but it should be remembered that at the time the story was written the author was far in advance of the times—and who can affirm that the rest of the story will not be just as prophetic as the wireless telegraphy part of it?

Why had we come to the moon?

The thing presented itself to me as a perplexing problem. What is this spirit in man that ever urges him to depart from happiness and security, to toil, to place himself in danger, to risk even a reasonable certainty of death? It dawned upon me up there in the moon as a thing I ought always to have known, that man is not made simply to go about being safe and comfortable and well fed and amused. Almost any man, if you put the thing to him, not in words, but in the shape of opportunities, will show that he knows as much. Against his interest, against his happiness, he is constantly being driven to do unreasonable things. Some force not himself impels him, and go he must. But why? Why? Sitting there in the midst of that useless moon-gold, amidst the things of another world, I took count of all my life. Assuming I was to die a castaway upon the moon, I failed altogether to see what purpose I had served. I got no light on that point, but at any rate it was clearer to me than it had ever been in my life before that I was not serving my own purpose, that all my life I had in truth never served the purposes of my private life. Whose purposes, what purposes, was I serving? . . . I ceased to speculate on why we had come to the moon, and took a wider sweep. Why had I come to the earth? Why had I a private life at all? . . . I lost myself at last in bottomless speculations. . . .

My thoughts became vague and cloudy, no longer leading in definite directions. I had not felt heavy or weary—I cannot imagine one doing so upon the moon—but I suppose I was greatly fatigued. At any rate I slept.

Slumbering there rested me greatly, I think, and the sun was setting and the violence of the heat abating, through all the time I slumbered. When at last I was roused from my slumbers by a remote clamour, I felt active and capable again. I rubbed my eyes and stretched my arms. I rose to my feet —I was a little stiff—and at once prepared to resume my search. I shouldered my golden clubs, one on each shoulder, and went on out of the ravine of the gold-veined rocks.

The sun was certainly lower, much lower than it had been; the air was very much cooler. I perceived I must have slept some time. It seemed to me that a faint touch of misty blueness hung about the western cliff. I leapt to a little boss of rock and surveyed the crater. I could see no signs of mooncalves or Selenites, nor could I see Cavor, but I could see my handkerchief afar off, spread out on its thicket of thorns. I looked about me, and then leapt forward to the next convenient viewpoint.

I beat my way around in a semicircle, and back again in a still remoter crescent. It was very fatiguing and hopeless. The air was really very much cooler, and it seemed to me that the shadow under the westward cliff was growing broad. Ever and again I stopped and reconnoitred, but there was no sign of Cavor, no sign of Selenites; and it seemed to me the mooncalves must have been driven into the interior again—I could see none of them. I became more and more desirous of seeing Cavor. The winged outline of the sun had sunk now, until it was scarcely the distance of its diameter from the rim of the sky. I was oppressed by the idea that the Selenites would presently close their lids and valves, and shut us out under the inexorable onrush of the lunar night. It seemed to me high time that he abandoned his search, and that we took counsel together. I felt how urgent it was that we should decide soon upon our course. We had failed to find the sphere, we no longer had time to seek it, and once these valves were closed with us outside, we were lost men. The great night of space would descend upon us—that blackness of the void which is the only absolute death. All my being shrank from that approach. We must get into the moon again, though we were slain in doing it. I was haunted by a vision of our freezing to death, of our hammering with our last strength on the valve of the great pit.

I took no thought any more of the sphere. I thought only of finding Cavor again. I was half inclined to go back into the moon without him, rather than seek him until it was too late. I was already half-way back towards our handkerchief, when suddenly——

I saw the sphere!

I did not find it so much as it found me. It was lying much farther to the westward than I had gone, and the sloping rays of the sinking sun reflected from its glass had suddenly proclaimed its presence in a dazzling beam. For an instant I thought this was some new device of the Selenites against us, and then I understood.

I threw up my arms, shouted a ghostly shout, and set off in vast leaps towards it. I missed one of my leaps and dropped into a deep ravine and twisted my ankle, and after that I stumbled at almost every leap. I was in a state of hysterical agitation, trembling violently, and quite breathless long before I got to it. Three times at least I had to stop with my hands resting on my side, and in spite of the thin dryness of the air, the perspiration was wet upon my face.

I thought of nothing but the sphere until I reached it, I forgot even my trouble of Cavor's whereabouts. My last leap flung me with my hands hard against its glass; then I lay against it panting, and trying vainly to shout, "Cavor! here is the sphere!" When I had recovered a little I peered through the thick glass, and the things inside seemed tumbled. I stooped to peer closer. Then I attempted to get in. I had to hoist it over a little to get my head through the manhole. The screw stopper was inside, and I could see now that nothing had been touched, nothing had suffered. It lay there as we had left it when we had dropped out amidst the snow. For a time I was wholly occupied in making and remaking this inventory. I found I was trembling violently. It was good to see that familiar dark interior again! I cannot tell you how good. Presently I crept inside and sat down among the things. I looked through the glass at the moon-world and shivered. I placed my gold clubs upon the bale, and sought out and took a little food; not so much because I wanted it, but because it was there. Then it occurred to me that it was time to go out and signal for Cavor. But I did not go out and signal for Cavor forthwith. Something held me to the sphere.

After all everything was coming right. There would still be time for us to get more of the magic stone that gives one mastery over men. Away there, close handy, was gold for the picking up; and the sphere would travel as well half full of gold as though it were empty. We could go back now, masters of ourselves and our world, and then——

I roused myself at last, and with an effort got myself out of the sphere. I shivered as I emerged, for the evening air was growing very cold. I stood in the hollow staring about me. I scrutinized the bushes round me very carefully before I leapt to the rocky shelf hard by, and took once more what had been my first leap in the moon. But now I made it with no effort whatever.

The growth and decay of the vegetation had gone on apace, and the whole aspect of the rocks had changed, but still it was possible to make out the slope on which the seeds had germinated, and the rocky mass from which we had taken our first view of the crater. But the spiky shrub on the slope stood brown and sere now, and thirty feet high, and cast long shadows that stretched out of sight, and the little seeds that clustered in its upper branches were brown and ripe. Its work was done, and it was brittle and ready to fall and crumple under the freezing air, so soon as the nightfall came. And the huge cacti, that had swollen as we watched them, had long since burst and scattered their spores to the four quarters of the moon. Amazing little corner in the universe—the landing-place of men!

Some day, thought I, I will have an inscription standing there right in the midst of the hollow. It came to me, if only this teeming world within knew of the full import of the moment, how furious its tumult would become!

But as yet it could scarcely be dreaming of the significance of our coming. For if it did, the crater would surely be in an uproar of pursuit, instead of as still as death! I looked about for some place from which I might signal to Cavor, and saw that same patch of rock to which he had leapt from my present standpoint, still bare and barren in the sun. For a moment I hesitated at going so far from the sphere. Then with a pang of shame at that hesitation, I leapt. . . .

From this vantage point I surveyed the crater again. Far away at the top of the enormous shadow I cast was the little white handkerchief fluttering on the bushes. It was very little and very far, and Cavor was not in sight. It seemed to me that by this time he ought to be looking for me. That was the agreement. But he was nowhere to be seen.

I stood waiting and watching, hands shading my eyes, expecting every moment to distinguish him. Very probably I stood there for quite a long time. I tried to shout, and was reminded of the thinness of the air. I made an undecided step back towards the sphere. But a lurking dread of the Selenites made me hesitate to signal my whereabouts by hoisting one of our sleeping-blankets on to the adjacent scrub. I searched the crater again.

It had an effect of emptiness that chilled me. And it was still! Any sound from the Selenites in the world beneath, even had died away. It was as still as death. Save for the faint stir of the shrub about me in the little breeze that was rising, there was no sound or shadow of a sound. And the breeze blew chill.

Confound Cavor!

I took a deep breath. I put my hands to the sides of my mouth. "Cavor!" I bawled, and the sound was like some manikin shouting far away.

I looked at the handkerchief, I looked behind me at the broadening shadow of the westward cliff, I looked under my hand at the sun. It seemed to me that almost visibly it was creeping down the sky.

I felt I must act instantly if I was to save Cavor. I whipped off my vest and flung it as a mark on the sere bayonets of the shrubs behind me, and then set off in a straight line towards the handkerchief. Perhaps it was a couple of miles away—a matter of a few hundred leaps and strides. I have already told how one seemed to hang through those lunar leaps. In each suspense I sought Cavor, and marvelled why he should be hidden. In each leap I could feel the sun setting behind me. Each time I touched the ground I was tempted to go back.

A last leap and I was in the depression below our handkerchief, a stride, and I stood on our former vantage point within arm's reach of it. I stood up straight and scanned the world about me, between its lengthening bars of shadow. Far away, down a long declivity, was the opening of the tunnel up which we had fled, and my shadow reached towards it, stretched towards it, and touched it, like a finger of the night.

Not a sign of Cavor, not a sound in all the stillness, only the stir and waving of the scrub and of the shadows increased. And suddenly and violently I shivered. "Cav——" I began, and realized once more the uselessness of the human voice in that thin air.

Silence. The silence of death.

Then it was my eye caught something—a little thing lying, perhaps fifty yards away down the slope, amidst a litter of bent and broken branches. What was it? I knew, and yet for some reason I would not know.

I went nearer to it. It was the little cricket-cap Cavor had worn. I did not touch it, I stood looking at it.

I saw then that the scattered branches about it had been forcibly smashed and trampled. I hesitated, stepped forward, and picked it up.

I stood with Cavor's cap in my hand, staring at the trampled reeds and thorns about me. On some of them were little smears of something dark, something that I dared not touch. A dozen yards away, perhaps, the rising breeze dragged something into view something small and vividly white.

It was a little piece of paper crumpled tightly, as though it had been clutched tightly. I picked it up, and on it were smears of red. My eye caught faint pencil marks. I smoothed it out, and saw uneven and broken writing ending at last in a crooked streak upon the paper.

I set myself to decipher this.

"I have been injured about the knee, I think my kneecap is hurt, and I cannot run or crawl," it began—pretty distinctly written.

Then less legibly: "They have been chasing me for some time, and it is only a question of"—the word "time" seemed to have been written here and erased in favor of something illegible—"before they get me. They are beating all about me."

Then the writing became convulsive. "I can hear them," I guessed the tracing meant, and then it was quite unreadable for a space. Then came a little string of words that were quite distinct: "a different sort of Selenite altogether, who appears to be directing the——" The writing became a mere hasty confusion again.

"They have larger brain cases—much larger, and slenderer bodies, and very short legs. They make gentle noises, and move with organised deliberation. . . .

"And though I am wounded and helpless here, their appearance still gives me hope—" That was like Cavor. "They have not shot at me or attempted . . . injury. I intend—"

Then came the sudden streak of the pencil across the paper, and on the back and edges—blood!

And as I stood there stupid and perplexed, with this dumbfounding relic in my hand, something very soft and light and chill touched my hand for a moment and ceased to be, and then a thing, a little white speck, drifted athwart a shadow. It was a tiny snowflake, the first snowflake, the herald of the night.

I looked up with a start, and the sky had darkened now almost to blackness, and was thick with a gathering multitude of coldly watchful stars. I looked eastward, and the light of that shrivelled world was touched with a sombre bronze; westward, and the sun, robbed now by a thickening white mist of half its heat and splendor, was touching the crater rim, was sinking out of sight, and all the shrubs and jagged and tumbled rocks stood out against it in a bristling disorder of black shapes. Into the great lake of darkness westward, a vast wreath of mist was sinking. A cold wind set all the crater shivering. Suddenly, for a moment, I was in a puff of falling snow, and all the world about me gray and dim.

And then it was I heard, not loud and penetrating as at first, but faint and dim like a dying voice, that tolling, that same tolling that had welcomed the coming of the day: Boom! . . . Boom! . . . Boom! . . .

It echoed about the crater, it seemed to throb with the throbbing of the greater stars, the blood-red crescent of the sun's disc sank as it tolled out: Boom! . . . Boom! . . . Boom! . . .

What had happened to Cavor? All through that tolling I stood there stupidly, and at last the tolling ceased.

And suddenly the open mouth of the tunnel down below there, shut like an eye and vanished out of sight.

Then indeed was I alone.

Over me, around me, closing in on me, embracing me ever nearer, was the Eternal; that which was before the beginning, and that which triumphs over the end; that enormous void in which all light and life and being is but the thin and vanishing splendor of a falling star, the cold, the stillness, the silence—the infinite and final Night of space.

The sense of solitude and desolation became the sense of an overwhelming presence that stooped towards me, that almost touched me.

"No," I cried. "*No!* Not yet! not yet! Wait! Wait! Oh, wait," My voice went up to a shriek. I flung the crumpled paper from me, scrambled back to the crest to take my bearings, and then, with all the will that was in me, leapt out towards the mark I had left, dim and distant now in the very margin of the shadow.

Leap, leap, leap, and each leap was seven ages.

Before me the pale serpent-girdled section of the sun sank and sank, and the advancing shadow swept to seize the sphere before I could reach it. I was two miles away, a hundred leaps or more, and the air about me was thinning out as it thins under an air-pump, and the cold was gripping at my joints. But had I died, I should have died leaping. Once, and then again my foot slipped on the gathering snow as I leapt and shortened my leap; once I fell short into bushes that crashed and smashed into dusty chips and nothingness and once I stumbled as I dropped, and rolled head over heels into a gully, and rose bruised and bleeding and confused as to my direction.

But such incidents were as nothing to the intervals, those awful pauses when one drifted through the air towards that pouring tide of night. My breathing made a piping noise, and it was as though knives were whirling in my lungs. My heart seemed to beat against the top of my brain. "Shall I reach it? O Heaven! shall I reach it?"

My whole being became anguish.

"Lie down!" screamed my pain and despair; "lie down!"

The nearer I struggled, the more awfully remote it seemed. I was numb, I stumbled, I bruised and cut myself and did not bleed.

It was in sight.

I fell on all fours, and my lungs whooped.

I crawled. The frost gathered on my lips, icicles hung from my moustache, I was white with the freezing atmosphere.

I was a dozen yards from it. My eyes had become dim. "Lie down!" screamed despair; "lie down!"

I touched it, and halted. "Too late!" screamed despair; "lie down!"

I fought stiffly with it. I was on the manhole lip, a stupefied, half-dead being. The snow was all about me. I pulled myself in. There lurked within a little warmer air.

The snowflakes—the airflakes—danced in about me, as I tried with chilling hands to thrust the valve in and spun it tight and hard. I sobbed. "I will," I chattered in my teeth. And then, with fingers that quivered and felt brittle, I turned to the shutter studs.

As I fumbled with the switches—for I had never controlled them before—I could see dimly through the steaming glass the blazing red streamers of the sinking sun, dancing and flickering through the snowstorm, and the black forms of the scrub thickening and bending and breaking beneath the accumulating snow. Thicker whirled the snow and thicker, black against the light. What if even now the switches overcame me?

Then something clicked under my hands, and in an instant that last vision of the moon world was hidden from my eyes. I was in the silence and darkness of the inter-planetary sphere.

CHAPTER XX

Mr. Bedford in Infinite Space

IT was almost as though I had been killed. Indeed, I could imagine a man suddenly and violently killed would feel very much as I did. One moment, a passion of agonizing existence and fear, the next darkness and stillness, neither light nor life nor sun, moon nor stars, the blank infinite. Although the thing was done by my own act, although I had already tasted this very effect in Cavor's company, I felt astonished, dumbfounded, and overwhelmed. I seemed to be borne upward into an enormous darkness. My fingers floated off the studs, I hung as if I were annihilated, and at last very softly and gently I came against the bale and the golden chain, and the crowbars that had drifted to the middle of the sphere.

I do not know how long that drifting took. In the sphere of course, even more than on the moon, one's earthly time sense was ineffectual. At the touch of the bale it was as if I had awakened from a dreamless sleep. I immediately perceived that if I wanted to keep awake and alive I must get a light or open a window, so as to get a grip of something with my eyes. And besides, I was cold. I kicked off from the bale, therefore, clawed on to the thin cords within the glass, crawled along until I got to the manhole rim, and so got my bearings for the light and blind studs, took a shove off, and flying once round the bale, and getting a scare from something big and flimsy that was drifting loose, I got my hand on the cord quite close to the studs, and reached them. I lit the little lamp first of all to see what it was I had collided with, and discovered that old copy of *Lloyd's News* had slipped its moorings, and was adrift in the void. That brought me out of the infinite to my own proper dimensions again. It made me laugh and pant for a time, and suggested the idea of a little oxygen from one of the cylinders. After that I lit the heater until I felt warm, and then I took food. Then I set to work in a very gingerly fashion on the Cavorite blinds, to see if I could guess by any means how the sphere was travelling.

The first blind I opened I shut at once, and hung for a time flattened and blinded by the sunlight that had hit me. After thinking a little I started upon the windows at right angles to this one, and got the huge crescent moon and the little crescent earth behind it, the second time. I was amazed to find how far I was from the moon. I had reckoned that not only should I have little or none of the "kick-off" that the earth's atmosphere had given us at our start, but that the tangential "fly off" of the moon's spin would be at least twenty-eight times less than the earth's. I had expected to discover myself hanging over our crater, and on the edge of the night, but all that was now only a part of the outline of the white crescent that filled the sky. And Cavor—?

He was already infinitesimal.

I tried to imagine what could have happened to him. But at that time I could think of nothing but death. I seemed to see him, bent and smashed at the foot of some interminably high cascade of blue. And all about him the stupid insects stared. . . .

Under the inspiring touch of the drifting newspaper I became practical again for a while. It was quite clear to me that what I had to do was to get back to earth, but as far as I could see I was drifting away from it. Whatever had happened to Cavor, even if he was still alive, which seemed to me incredible after that blood-stained scrap, I was powerless to help him. There he was, living or dead behind the mantle of that rayless night, and there he must remain at least until I could summon our fellow men to his assistance. Should I do that? Something of the sort I had in my mind; to come back to earth if it were possible, and then as maturer consideration might determine, either to show and explain the sphere to a few discreet persons, and act with them, or else to keep my secret, sell my gold, obtain weapons, provisions, and an assistant, and return with these advantages to deal on equal terms with the flimsy people of the moon, to rescue Cavor, if that were still possible, and at any rate to produce a sufficient supply of gold to place my subsequent proceedings on a firmer basis. But that was hoping far; I had first to get back.

I set myself to decide just exactly how the return to earth could be contrived. As I struggled with that problem I ceased to worry about what I should do when I got there. At last my only care was to get back.

I puzzled out at last that my best chance would be to drop back towards the moon as near as I dared in order to gather velocity, then to shut my windows and fly behind it, and when I was past to open my earthward windows, and so get off at a good pace homeward. But whether I should ever reach the earth by that device, or whether I might not simply find myself spinning about it in some hyperbolic or parabolic curve or other, I could not tell. Later I had a happy inspiration, and by opening certain windows to the moon, which had appeared in the sky in front of the earth, I turned my course aside so as to head off the earth, which it had become evident to me I must pass behind without some such expedient. I did a very great deal of complicated thinking over these problems—for I am no mathematician—and in the end I am certain it was much more my good luck than my reasoning that enabled me to hit the earth. Had I known then, as I know now, the mathematical chances there were against me, I doubt if I should have troubled even to touch the studs to make any attempt. And having puzzled out what I considered to be the thing to do, I opened all my moonward windows, and squatted down—the effort lifted me for a time some feet or so into the air, and I hung there in the oddest way—and waited for the crescent to get bigger and bigger until I felt I was near enough for safety. Then I would shut the windows, fly past the moon with the velocity I had got from it—if I did not smash upon it—and so go on towards the earth.

And that is what I did.

At last I felt my moonward start was sufficient. I shut out the sight of the moon from my eyes, and in a state of mind that was, I now recall, incredibly free from anxiety or any distressful quality, I sat down to begin a vigil in that little speck of matter in infinite space that would last until I should strike the earth. The heater had made the sphere tolerably warm, the air had been refreshed by the oxygen, and except for that faint congestion of the head that was always with me while I was away from earth, I felt entire physical comfort. I had extinguished the light again, lest it should fail me in the end; I was in darkness, save for the earthshine and the glitter of the stars below me. Everything was so absolutely silent and still that I might indeed have been the only being in the universe, and yet, strangely enough, I had no more feeling of loneliness or fear than if I had been lying in bed on earth. Now, this seems all the stranger to me, since during my last hours in that crater of the moon, the sense of my utter loneliness had been an agony. . . .

Incredible as it will seem, this interval of time that I spent in space has no sort of proportion to any other interval of time in my life. Sometimes it seemed as though I sat through immeasurable eternities like some god upon a lotus leaf, and again as though there was a momentary pause as I leapt from moon to earth. In truth, it was altogether some weeks of earthly time. But I had done with care and anxiety, hunger or fear, for that space. I floated, thinking with a strange breadth and freedom of all that we had undergone, and of all my life and motives, and the secret issues of my being. I seemed to myself to have grown greater and greater, to have lost all sense of movement; to be floating amidst the stars, and always the sense of earth's littleness and the infinite littleness of my life upon it, was implicit in my thoughts.

I can't profess to explain the things that happened in my mind. No doubt they could all be traced directly or indirectly to the curious physical conditions under which I was living. I set them down here just for what they are worth, and without any comment. The most prominent quality of it was a pervading doubt of my own identity. I became, if I may so express it, dissociate from Bedford; I looked down on Bedford as a trivial, incidental thing with which I chanced to be connected. I saw Bedford in many relations—as an ass or as a poor beast, where I had hitherto been inclined to regard him with a quiet pride as a very spirited or rather forcible person. I saw him not only as an ass, but as the son of many generations of asses. I reviewed his schooldays and his early manhood, and his first encounter with love, very much as one might review the proceedings of an ant in the sand. . . . Something of that period of lucidity I regret still hangs about me, and I doubt if I shall ever recover the full-bodied self-satisfaction of my early days. But at the time the thing was not in the least painful, because I had that extraordinary persuasion that, as a matter of fact, I was no more Bedford than I was any one else, but only a mind floating in the still serenity of space. Why should I be disturbed about this Bedford's shortcomings? I was not responsible for him or them.

For a time I struggled against this really very grotesque delusion. I tried to summon the memory of vivid moments, of tender or intense emotions to my assistance; I felt that if I could recall one genuine twinge of feeling the growing severance would be stopped. But I could not do it. I saw Bedford rushing down Chancery Lane, hat on the back of his head, coat tails flying out, *en route* for his public examination. I saw him dodging and bumping against, and even saluting, other similar little creatures in that swarming gutter of people. Me? I saw Bedford that same evening in the sitting-room of a certain lady, and his hat was on the table beside him, and it wanted brushing badly, and he was in tears. Me? I saw him with that lady in various attitudes and emotions—I never felt so detached before. . . . I saw him hurrying off to Lympne to write a play, and accosting Cavor, and in his shirt sleeves working at the sphere, and walking out to Canterbury because he was afraid to come! Me? I did not believe it.

I still reasoned that all this was hallucination due to my solitude, and the fact that I had lost all weight and sense of resistance. I endeavoured to recover that sense by banging myself about the sphere, by pinching my hands and clasping them together. Among other things I lit the light, captured that torn copy of *Lloyd's*, and read those convincingly realistic advertisements again about the Cutaway bicycle, and the gentleman of private means, and the lady in distress who was selling those "forks and spoons." There was no doubt they existed surely enough, and, said I, "This is your world, and you are Bedford, and you are going back to live among things like that for all the rest of your life." But the doubts within me could still argue: "It is not you that is reading, it is Bedford, but you are not Bedford, you know. That's just where the mistake comes in."

"Confound it!" I cried; "and if I am not Bedford, what am I?"

But in that direction no light was forthcoming, though the strangest fancies came drifting into my brain, queer remote suspicions, like shadows seen from far away. . . . Do you know, I had a sort of idea that really I was something quite outside, not only of the world, but of all worlds, and of space and time, and that this poor Bedford was just a peephole through which I looked at life? . . .

Bedford! However I disavowed him, there I was most certainly bound up in him. And I knew that wherever or whatever I might be, I must needs feel the stress of his desires, and sympathize with all his joys and sorrows until his life should end. And with the dying of Bedford—what then? . . .

Enough of this remarkable phase of my experiences! I tell it here simply to show how one's isolation and departure from this planet touched not only the functions and feeling of every organ of the body, but indeed also the very fabric of the mind, with strange and unanticipated disturbances.

All through the major portion of that vast space journey I hung thinking of such immaterial things as these, hung dissociated and apathetic, a cloudy megalomaniac, as it were, amidst the stars and planets in the void of space; and not only the world to which I was returning, but the blue-lit caverns of the Selenites, their helmet faces, their gigantic and wonderful machines, and the fate of Cavor, dragged helpless into that world, seemed infinitely minute and altogether trivial things to me.

Until at last I began to feel the pull of the earth upon my being, drawing me back again to the life that is real for men. And then, indeed, it grew clearer and clearer to me that I was quite certainly Bedford after all, and returning after amazing adventures to this world of ours, and with a life that I was very likely to lose in this return. I set myself to puzzle out the conditions under which I must fall to earth.

CHAPTER XXI

Mr. Bedford at Littlestone

MY line of flight was about parallel with the surface as I came into the upper air. The temperature of the sphere began to rise forthwith. I knew it behoved me to drop at once. Far below me, in a darkling twilight, stretched a great expanse of sea. I opened every window I could, and fell—out of sunshine into evening, and out of evening into night. Vaster grew the earth and vaster, swallowing up the stars, and the silvery translucent starlit veil of cloud it wore spread out to catch me. At last the world seemed no longer a sphere but flat, and then concave. It was no longer a planet in the sky, but the world of Man. I shut all but an inch or so of earthward window, and dropped with a slackening velocity. The broadening water, now so near that I could see the dark glitter of the waves, rushed up to meet me. The sphere became very hot. I snapped the last strip of window, and sat scowling and biting my knuckles, waiting for the impact. . . .

The sphere hit the water with a huge splash: it must have sent it fathoms high. At the splash I flung the Cavorite shutters open. Down I went, but slower and slower, and then I felt the sphere pressing against my feet, and so drove up again as a bubble drives. And at the last I was floating and rocking upon the surface of the sea, and my journey in space was at an end.

The night was dark and overcast. Two yellow pin-points far away showed the passing of a ship, and nearer was a red glare that came and went. Had not the electricity of my glow-lamp exhausted itself, I could have got picked up that night. In spite of the inordinate fatigue I was beginning to feel, I was excited now, and for a time hopeful, in a feverish, impatient way, that so my travelling might end.

But at last I ceased to move about, and sat, wrists on knees, staring at a distant red light. It swayed up and down, rocking, rocking. My excitement passed. I realised I had yet to spend another night at least in the sphere. I perceived myself infinitely heavy and fatigued. And so I fell asleep.

A change in my rhythmic motion awakened me. I peered through the refracting glass, and saw that I had come aground upon a huge shallow of sand. Far away I seemed to see houses and trees, and seaward a curve, vague distortion of a ship, hung between sea and sky.

I stood up and staggered. My one desire was to emerge. The manhole was upward, and I wrestled with the screw. Slowly I opened the manhole. At last the air was singing in again as once it had sung out. But this time I did not wait until the pressure was adjusted. In another moment I had the weight of the window on my hands, and it was open, wide open, to the old familiar sky of earth.

The air hit me on the chest so that I gasped. I dropped the glass screw. I cried out, put my hands to my chest, and sat down. For a time I was in pain. Then I took deep breaths. At last I could rise and move about again.

I tried to thrust my head through the manhole, and the sphere rolled over. It was as though something had lugged my head down directly it emerged. I ducked back sharply, or I should have been pinned face under water. After some wriggling and shoving I managed to crawl out upon sand, over which the retreating waves still came and went.

I did not attempt to stand up. It seemed to me that my body must be suddenly changed to lead. Mother Earth had her grip on me now—no Cavorite intervening. I sat down heedless of the water that came over my feet.

It was dawn, a gray dawn, rather overcast but showing here and there a long patch of greenish gray. Some way out a ship was lying at anchor, a pale silhouette of a ship with one yellow light. The water came rippling in in long shallow waves. Away to the right curved the land, a shingle bank with little hovels, and at last a lighthouse, a sailing mark and a point. Inland stretched a space of level sand, broken here and there by pools of water, and ending a mile away perhaps in a low shore of scrub. To the north-east some isolated watering-place was visible, a row of gaunt lodging-houses, the tallest things that I could see on earth, dull dabs against the brightening sky. What strange men can have reared these vertical piles in such an amplitude of space I do not know. There they are, like pieces of Brighton lost in the waste.

For a long time I sat there, yawning and rubbing my face. At last I struggled to rise. It made me feel that I was lifting a weight. I stood up.

I stared at the distant houses. For the first time since our starvation in the crater I thought of earthly food. "Bacon," I whispered, "eggs. Good toast and good coffee. . . . And how the devil am I going to get all this stuff to Lympne?" I wondered where I was. It was an east shore anyhow, and I had seen Europe before I dropped.

I heard footsteps scrunching in the sand, and a little round-faced, friendly-looking man in flannels, with a bathing towel wrapped about his shoulders, and his bathing dress over his arm, appeared up the beach. I knew instantly that I must be in England. He was staring almost intently at the sphere and me. He advanced staring. I dare say I looked a ferocious savage enough—dirty, unkempt, to an indescribable degree; but it did not occur to me at the time. He stopped at a distance of twenty yards. "Hul-lo, my man!" he said doubtfully.

"Hullo yourself!" said I.

He advanced, reassured by that. "What on earth is that thing?" he asked.

"Can you tell me where I am?" I asked.

"That's Littlestone," he said, pointing to the houses; "and that's Dungeness! Have you just landed? What's that thing you've got? Some sort of machine?"

"Yes."

"Have you floated ashore? Have you been wrecked or something? What is it?"

I meditated swiftly. I made an estimate of the little man's appearance as he drew nearer. "By Jove!" he said, "you've had a time of it! I thought you—— Well—— Where were you cast away? Is that thing a sort of floating thing for saving life?"

I decided to take that line for the present. I made a few vague affirmatives. "I want help," I said hoarsely. "I want to get some stuff up the beach—stuff I can't very well leave about." I became aware of three other pleasant-looking young men with towels, blazers, and straw hats, coming down the sands towards me. Evidently the early bathing section of this Littlestone.

"Help!" said the young man; "rather!" He became vaguely active. "What particularly do you want done?" He turned round and gesticulated. The three young men accelerated their pace. In a minute they were about me, plying me with questions I was indisposed to answer. "I'll tell all that later," I said. "I'm dead beat. I'm a rag."

"Come up to the hotel," said the foremost little man. "We'll look after that thing there.'

I hesitated. "I can't," I said. "In that sphere there are two big bars of gold."

They looked incredulously at one another, then at me with a new inquiry. I went to the sphere, stooped, crept in, and presently they had the Selenites' crowbars and the broken chain before them. If I had not been so horribly fagged I could have laughed at them. It was like kittens round a beetle. They didn't know what to do with the stuff. The fat little man stooped and lifted the end of one of the bars, and then dropped it with a grunt. Then they all did.

"It's lead, or gold!" said one.

"Oh, it's *gold*!" said another.

"Gold, right enough," said the third.

Then they all stared at me, and then they all stared at the ship lying at anchor.

"I say!" cried the little man. "But where did you get that?"

I was too tired to keep up a lie. "I got it in the moon."

I saw them stare at one another.

"Look here!" said I, "I'm not going to argue now. Help me carry these lumps of gold up to the hotel—I guess, with rests, two of you can manage one, and I'll trail this chain thing—and I'll tell you more when I've had some food."

"And how about that thing?"

"It won't hurt there," I said. "Anyhow—confound it!—it must stop there now. If the tide comes up, it will float all right."

And in a state of enormous wonderment, these young men most obediently hoisted my treasures on their shoulders, and with limbs that felt like lead I headed a sort of procession towards that distant fragment of "sea-front." Half-way there we were reinforced by two awe-stricken little girls with spades, and later a lean little boy, with a penetrating sniff, appeared. He was, I remembered, wheeling a bicycle, and he accompanied us at a distance of about a hundred yards on our right flank, and then I suppose, gave us up as uninteresting, mounted his bicycle, and rode off over the level sands in the direction of the sphere.

I glanced back after him.

"*He* won't touch it," said the stout young man reassuringly, and I was only too willing to be reassured.

At first something of the gray of the morning was in my mind, but presently the sun disengaged itself from the level clouds of the horizon and lit the world, and turned the leaden sea to glittering waters. My spirits rose. A sense of the vast importance of the things I had done and had yet to do came with the sunlight into my mind. I laughed aloud as the foremost man staggered under my gold. When indeed I took my place in the world, how amazed the world would be!

If it had not been for my inordinate fatigue, the landlord of the Littlestone hotel would have been amusing, as he hesitated between my gold and my respectable company on the one hand, and my filthy appearance on the other. But at last I found myself in a terrestrial bathroom once more with warm water to wash myself with, and a change of raiment, preposterously small indeed, but anyhow clean, that the genial little man had lent me. He lent me a razor too, but I could not screw up my resolution to attack even the outposts of the bristling beard that covered my face.

I sat down to an English breakfast and ate with a sort of languid appetite—an appetite many weeks old, and very decrepit—and stirred myself to answer the questions of the four young men. And I told them the truth.

"Well," said I, "as you press me—I got it in the moon."

"The moon?"

"Yes, the moon in the sky."

"But how do you mean?"

"What I say, confound it!"

"That you have just come from the moon?"

"Exactly! through space—in that ball." And I took a delicious mouthful of egg. I made a private note that when I went back to the moon I would take a box of eggs.

I could see clearly that they did not believe one word of what I told them, but evidently they considered me the most respectable liar they had ever met. They glanced at one another, and then concentrated the fire of their eyes on me. I fancy they expected a clue to me in the way I helped myself to salt. They seemed to find something significant in my peppering my egg. These strangely shaped masses of gold they had staggered under held their minds. There the lumps lay in front of me, each worth thousands of pounds, and as impossible for any one to steal as a house or a piece of land. As I looked at their curious faces over my coffee-cup, I realized something of the enormous wilderness of explanations into which I should have to wander to render myself comprehensible again.

"You don't *really* mean——" began the youngest young man, in the tone of one who speaks to an obstinate child.

"Just pass me that toast-rack," I said, and shut him up completely.

"But look here, I say," began one of the others. "We're not going to believe that, you know."

"Ah, well," said I, and shrugged my shoulders.

"He doesn't want to tell us," said the youngest young man in a stage aside; and then, with an appearance of great *sang-froid*, "You don't mind if I take a cigarette?"

I waved him a cordial assent, and proceeded with my breakfast. Two of the others went and looked out of the farther window and talked inaudibly. I was struck by a thought. "The tide," I said, "is running out?"

There was a pause, a doubt who should answer me. "It's near the ebb," said the fat little man.

"Well, anyhow," I said, "it won't float far."

I decapitated my third egg, and began a little speech. "Look here," I said. "Please don't imagine I'm surly or telling you uncivil lies, or anything of that sort. I'm forced almost, to be a little short and mysterious. I can quite understand this is as queer as it can be, and that your imaginations must be going it. I can assure you, you're in at a memorable time. But I can't make it clear to you now—it's impossible. I give you my word of honour I've come from the moon, and that's all I can tell you. . . . All the same, I'm tremendously obliged to you, you know, tremendously. I hope that my manner hasn't in any way given you offence."

"Oh, not in the least!" said the youngest young man affably. "We can quite understand," and staring hard at me all the time, he heeled his chair back until it very nearly upset, and recovered with some exertion. "Not a bit of it," said the fat young man. "Don't you imagine *that*!" and they all got up and dispersed, and walked about and lit cigarettes, and generally tried to show they were perfectly amiable and disengaged, and entirely free from the slightest curiosity about me and the sphere. "I'm going to keep an eye on that ship out there all the same," I heard one of them remarking in an under-tone. If only they could have forced themselves to it, they would, I believe, even have gone out and left me. I went on with my third egg.

"The weather," the fat little man remarked presently, "has been immense, has it not? I don't know *when* we have had such a summer. . . ."

Phoo—whizz! Like a tremendous rocket!

And somewhere a window was broken. . . .

"What's that?" said I.

"It isn't——?" cried the little man, and rushed to the corner window.

All the others rushed to the window likewise. I sat staring at them.

Suddenly I leapt up, knocked over my third egg, and rushed for the window also. I had just thought of something. "Nothing to be seen there," cried the little man, rushing for the door.

"It's that boy!" I cried, bawling in hoarse fury; "it's that accursed boy!" and turning about I pushed the waiter aside—he was just bringing me some more toast—and rushed violently out of the room and down and out upon the queer little esplanade in front of the hotel.

The sea, which had been smooth, was rough now with hurrying cat's-paws, and all about where the sphere had been was tumbled water like the wake of a ship. Above, a little puff of cloud whirled like dispersing smoke, and the three or four people on the beach were staring up with interrogative faces towards the point of that unexpected report. And that was all! Boots and waiter and the four young men in blazers came rushing out behind me. Shouts came from windows and doors, and all sorts of worrying people came into sight—agape.

For a time I stood there, too overwhelmed by this new development to think of the people.

At first I was too stunned to see the thing as any definite disaster—I was just stunned, as a man is by some accidental violent blow. It is only afterwards he begins to appreciate his specific injury.

"Good Lord."

I felt as though somebody was pouring funk out of a can down the back of my neck. My legs became feeble. I had got the first intimation of what the disaster meant for me. There was that confounded boy—sky high! I was utterly "left." There was the gold in the coffee-room—my only possession on earth. How would it all work out? The general effect was a gigantic unmanageable confusion.

"I say," said the voice of the little man behind. "I *say*, you know."

"I wheeled about, and there were twenty or thirty people, a sort of irregular investment of people, all bombarding me with dumb interrogation, with infinite doubt and suspicion. I felt the compulsion of their eyes intolerably. I groaned aloud.

"I *can't*!" I shouted. "I tell you I can't! I'm not equal to it! You must puzzle and—and be damned to you!"

I gesticulated convulsively. He receded a step as though I had threatened him. I made a bolt through them into the hotel. I charged back into the coffee-room, rang the bell furiously. I gripped the waiter as he entered. "D'ye hear?" I shouted. "Get help and carry these bars up to my room right away."

He failed to understand me, and I shouted and raved at him. A scared-looking little old man in a green apron appeared, and further two of the young men in flannels. I made a dash at them and commandeered their services. As soon as the gold was in my room I felt free to quarrel. "Now get out," I shouted; "all of you get out if you don't want to see a man go mad before your eyes!" And I helped the waiter by the shoulder as he hesitated in the doorway. And then, as soon as I had the door locked on them all, I tore off the little man's clothes again, shied them right and left, and got into bed forthwith. And there I lay swearing and panting and cooling for a very long time.

At last I was calm enough to get out of bed and ring up the round-eyed waiter for a flannel nightshirt, a soda and whisky, and some good cigars. And these things being procured me, after an exasperating delay that drove me several times to the bell, I locked the door again and proceeded very deliberately to look the entire situation in the face.

The net result of the great experiment presented itself as an absolute failure. It was a rout, and I was the sole survivor. It was an absolute collapse, and this was the final disaster. There was nothing for it but to save myself, and as much as I could in the way of prospects from our *débâcle.* At one fatal crowning blow all my vague resolutions of return and recovery had vanished. My intention of going back to the moon, of getting a sphereful of gold, and afterwards of having a fragment of Cavorite analysed and so recovering the great secret—perhaps, finally, even of recovering Cavor's body—all these ideas vanished altogether.

I was the sole survivor, and that was all.

I think that going to bed was one of the luckiest ideas I have ever had in an emergency. I really believe I should either have got loose-headed or done some fatal, indiscreet thing. But there, locked in and secure from all interruption, I could think out the position in all its bearings and make my arrangements at leisure.

Of course, it was quite clear to me what had happened to the boy. He had crawled into the sphere, meddled with the studs, shut the Cavorite windows, and gone up. It was highly improbable he had screwed in the manhole stopper, and, even if he had, the chances were a thousand to one against his getting back. It was fairly evident that he would gravitate with my bales to somewhere near the middle of the sphere and remain there, and so cease to be a legitimate terrestrial interest, however remarkable he might seem to the inhabitants of some remote quarter of space. I very speedily convinced myself on that point. And as for any responsibility I might have in the matter, the more I reflected upon that, the clearer it became that if only I kept quiet about things, I need not trouble myself about that. If I was faced by sorrowing parents demanding their lost boy, I had merely to demand my lost sphere—or ask them what they meant. At first I had had a vision of weeping parents and guardians, and all sorts of complications; but now I saw that I simply had to keep my mouth shut, and nothing in that way could arise. And, indeed, the more I lay and smoked and thought, the more evident became the wisdom of impenetrability.

It is within the right of every British citizen, provided he does not commit damage or indecorum, to appear suddenly wherever he pleases, and as ragged and filthy as he pleases, and with whatever amount of virgin gold he sees fit to encumber himself, and no one has any right at all to hinder and detain him in this procedure. I formulated that at last to myself, and repeated it over as a sort of private Magna Charta of my liberty.

Once I had put that issue on one side, I could take up and consider in an equable manner certain considerations I had scarcely dared to think of before, namely, those arising out of the circumstances of my bankruptcy. But now, looking at this matter calmly and at leisure, I could see that if only I suppressed my identity by a temporary assumption of some less well-known name, and if I retained the two months' beard that had grown upon me, the risks of any annoyance from the spiteful creditor to whom I have already alluded became very small indeed. From that to a definite course of rational worldly action was plain sailing. It was all amazingly petty, no doubt, but what was there remaining for me to do?

Whatever I did I was resolved that I would keep myself level and right side up.

I ordered up writing materials, and addressed a letter to the New Romney Bank—the nearest, the waiter informed me—telling the manager I wished to open an account with him, and requesting him to send two trustworthy persons properly authenticated in a cab with a good horse to fetch some hundredweight of gold with which I happened to be encumbered. I signed the letter "Blake," which seemed to me to be a thoroughly respectable sort of name. This done, I got a Folkestone Blue Book, picked out an outfitter, and asked him to send a cutter to measure me for a drab tweed suit, ordering at the same time a valise, dressing bag, brown boots, shirts, hat (to fit), and so forth; and from a watchmaker I also ordered a watch. And these letters being despatched, I had up as good a lunch as the hotel could give, and then lay smoking a cigar, as calm and ordinary as possible, until in accordance with my instructions two duly authenticated clerks came from the bank and weighed and took away my gold. After which I pulled the clothes over my ears in order to drown any knocking, and went very comfortably to sleep.

I went to sleep. No doubt it was a prosaic thing for the first man back from the moon to do, and I can imagine that the young and imaginative reader will find my behaviour disappointing. But I was horribly fatigued and bothered, and, confound it! what else was there to do? There certainly was not the remotest chance of my being believed, if I had told my story then, and it would certainly have subjected me to intolerable annoyances. I went to sleep. When at last I woke up again I was ready to face the world, as I have always been accustomed to face it since I came to years of discretion. And so I got away to Italy, and there it is I am writing this story. If the world will not have it as fact, then the world may take it as fiction. It is no concern of mine.

And now that the account is finished, I am amazed to think how completely this adventure is gone and done with. Everybody believes that Cavor was a not very brilliant scientific experimenter who blew up his house and himself at Lympne, and they explain the bang that followed my arrival at Littlestone by a reference to the experiments with explosives that are going on continually at the government establishment of Lydd, two miles away. I must confess that hitherto I have not acknowledged my share in the disappearance of Master Tommy Simmons, which was that little boy's name. That, perhaps, may prove a difficult item of corroboration to explain away. They account for my appearance in rags with two bars of indisputable gold upon the Littlestone beach in various ingenious ways—it doesn't worry me what they think of me. They say I have strung all these things together to avoid being questioned too closely as to the source of my wealth. I would like to see the man who could invent a story that would hold together like this one. Well, if they must take it as fiction—there it is.

I have told my story and now, I suppose, I have to take up the worries of this terrestrial life again. Even if one has been to the moon, one has still to earn a living. So I am working here at Amalfi, on the scenario of that play I sketched before Cavor came walking into my world, and I am trying to piece my life together as it was before ever I saw him. I must confess that I find it hard to keep my mind on the play when the moonshine comes into my room. It is full moon here, and last night I was out on the pergola for hours, staring away at that shining blankness that hides so much. Imagine it! tables and chairs, and trestles and bars of gold! Confound it!—if only one could hit on that Cavorite again! But a thing like that doesn't come twice in a life. Here I am, a little better off than I was at Lympne, and that is all. And Cavor has committed suicide in a more elaborate way than any human being ever did before. So the story closes as finally and completely as a dream. It fits in so little with all the other things of life, so much of it is so utterly remote from all human experience, the leaping, the eating, the breathing, and these weightless times, that indeed there are moments when, in spite of my moon gold, I do more than half believe myself that the whole thing was a dream. . . .

CHAPTER XXII

The Astonishing Communication of Mr. Julius Wendigee

When I had finished my account of my return to the earth at Littlestone, I wrote, "The End," made a flourish, and threw my pen aside, fully believing that the whole story of the First Men in the Moon was done. Not only had I done this, but I had placed my manuscript in the hands of a literary agent, had permitted it to be sold, had seen the greater portion of it appear in the *Strand Magazine,* and was setting to work again upon the scenario of the play I had commenced at Lympne before I realized that the end was not yet. And then, following me from Amalfi to Algiers, there reached me (it is now about six months ago) one of the most astounding communications I have ever been fated to receive. Briefly, it informed me that Mr. Julius Wendigee, a Dutch electrician, who has been experimenting with certain apparatus akin to the apparatus used by Mr. Tesla in America, in the hope of discovering some method of communication with Mars, was receiving day by day a curiously fragmentary message in English, which was indisputably emanating from Mr. Cavor in the moon.

At first I thought the thing was an elaborate practical joke by some one who had seen the manuscript of my narrative. I answered Mr. Wendigee jestingly, but he replied in a manner that put such suspicion altogether aside, and in a state of inconceivable excitement I hurried from Algiers to the little observatory upon the St. Gothard in which he was working. In the presence of his record and his appliances—and above all of the messages from Cavor that were coming to hand—my lingering doubts vanished. I decided at once to accept a proposal he made me to remain with him, assisting him to take down the record from day to day, and endeavouring with him to send a message back to the moon. Cavor, we learnt, was not only alive, but free, in the midst of an almost inconceivable community of these ant-like beings, these ant-men, in the blue darkness of the lunar caves. He was lamed, it seemed, but otherwise in quite good health—in better health, he distinctly said, than he usually enjoyed on earth. He had had a fever, but it had left no bad effects. But curiously enough he seemed to be labouring under a conviction that I was either dead in the moon crater or lost in the deep of space.

His message began to be received by Mr. Wendigee when that gentleman was engaged in quite a different investigation. The reader will no doubt recall the little excitement that began the century, arising out of an announcement by Mr. Nikola Tesla, the American electrical celebrity, that he had received a message from Mars. His announcement renewed attention to a fact that had long been familiar to scientific people, namely: that from some unknown source in space, waves of electro-magnetic disturbance, entirely similar to those used by Signor Marconi for his wireless telegraphy, are constantly reaching the earth. Besides Mr. Tesla quite a number of other observers have been engaged in perfecting apparatus for receiving and recording these vibrations, though few would go so far as to consider them actual messages from some extra-terrestrial sender. Among that few, however, we must certainly count Mr. Wendigee. Ever since 1898 he had devoted himself almost entirely to this subject, and being a man of means he had erected another observatory on the flanks of Monte Rosa, in a position singularly adapted in every way for such observations.

My scientific attainments, I must admit, are not great, but so far as they enable me to judge, Mr. Wendigee's contrivances for detecting and recording any disturbances in the electro-magnetic conditions of space are singularly original and ingenious. And by a happy combination of circumstances they were set up and in operation about two months before Cavor made his first attempt to call up the earth. Consequently we have fragments of his communication even from the beginning. Unhappily, they are only fragments, and the most momentous of all the things that he had to tell humanity—the instructions, that is, for the making of Cavorite, if, indeed, he ever transmitted them—have throbbed themselves away unrecorded into space. We never succeeded in getting a response back to Cavor. He was unable to tell, therefore, what we had received or what we had missed; indeed, he did not certainly know that any one on earth was really aware of his efforts to reach us. And the persistence he displayed in sending eighteen long descriptions of lunar affairs—as they would be if we had them complete—shows how much his mind must have turned back towards his native planet since he left it two years ago.

You can imagine how amazed Mr. Wendigee must have been when he discovered his record of electromagnetic disturbances interlaced by Cavor's straightforward English. Mr. Wendigee knew nothing of our wild journey moonward, and suddenly—this English out of the void!

It is well the reader should understand the conditions under which it would seem these messages were sent. Somewhere within the moon Cavor certainly had access for a time to a considerable amount of electrical apparatus, and it would seem he rigged up—perhaps furtively—a transmitting arrangement of the Marconi type. This he was able to operate at irregular intervals: sometimes for only half an hour or so, sometimes for three or four hours at a stretch. At these times he transmitted his earthward message, regardless of the fact that the relative position of the moon and points upon the earth's surface is constantly altering. As a consequence of this and of the necessary imperfections of our recording instruments his communication comes and goes in our records in an extremely fitful manner; it becomes blurred; it "fades out" in a mysterious and altogether exasperating way. And added to this is the fact that he was not an expert operator; he had partly forgotten, or never completely mastered, the code in general use, and as he became fatigued he dropped words and misspelt in a curious manner.

Altogether we have probably lost quite half of the communications he made, and much we have is damaged, broken, and partly effaced. In the abstract that follows the reader must be prepared therefore for a considerable amount of break, hiatus, and change of topic. Mr. Wendigee and I are collaborating in a complete and annotated edition of the Cavor record, which we hope to publish, together with a detailed account of the instruments employed, beginning with the first volume in January next. That will be the full and scientific report, of which this is only the popular first transscript. But here we give at least sufficient to complete the story I have told, and to give the broad outlines of the state of that other world so near, so akin, and yet so dissimilar to our own.

CHAPTER XXIII

An Abstract of the Six Messages First Received from Mr. Cavor

THE two earlier messages of Mr. Cavor may very well be reserved for that larger volume. They simply tell, with greater brevity and with a difference in several details that is interesting, but not of any vital importance, the bare facts of the making of the sphere and our departure from the world. Throughout, Cavor speaks of me as a man who is dead, but with a curious change of temper as he approaches our landing on the moon. "Poor Bedford," he says of me, and "this poor young man"; and he blames himself for inducing a young man, "by no means well equipped for such adventures," to leave a planet "on which he was indisputably fitted to succeed" on so precarious a mission. I think he underrates the part my energy and practical capacity played in bringing about the realization of his theoretical sphere. "We arrived," he says, with no more account of our passage through space than if we had made a journey of common occurrence in a railway train.

And then he becomes increasingly unfair to me. Unfair, indeed, to an extent I should not have expected in a man trained in the search for truth. Looking back over my previously written account of these things, I must insist that I have been altogether juster to Cavor than he has been to me. I have extenuated little and suppressed nothing. But his account is:—

"It speedily became apparent that the entire strangeness of our circumstances and surroundings —great loss of weight, attenuated but highly oxygenated air, consequent exaggeration of the results of muscular effort, rapid development of weird plants from obscure spores, lurid sky—was exciting my companion unduly. On the moon his character seemed to deteriorate. He became impulsive, rash, and quarrelsome. In a little while his folly in devouring some gigantic vesicles and his consequent intoxication led to our capture by the Selenites—before we had had the slightest opportunity of properly observing their ways. . . .

(He says, you observe, nothing of his own concession to these same "vesicles.")

And he goes on from that point to say that "We came to a difficult passage with them, and Bedford mistaking certain gestures of theirs"—pretty gestures they were!—"gave way to a panic violence. He ran amuck, killed three, and perforce I had to flee with him after the outrage. Subsequently we fought with a number who endeavoured to bar our way, and slew seven or eight more. It says much for the tolerance of these beings that on my recapture I was not instantly slain. We made our way to the exterior and separated in the crater of our arrival, to increase our chances of recovering our sphere. But presently I came upon a body of Selenites, led by two who were curiously different, even in form, from any of these we had seen hitherto, with larger heads and smaller bodies, and much more elaborately wrapped about. And after evading them for some time I fell into a crevasse, cut my head rather badly, and displaced my patella, and, finding crawling very painful, decided to surrender —if they would still permit me to do so. This they did, and, perceiving my helpless condition, carried me with them again into the moon. And of Bedford I have heard or seen nothing more, nor, so far as I can gather, has any Selenite. Either the night overtook him in the crater, or else, which is more probable, he found the sphere, and, desiring to steal a march upon me, made off with it—only, I fear, to find it uncontrollable, and to meet a more lingering fate in outer space."

And with that Cavor dismisses me and goes on to more interesting topics. I dislike the idea of seeming to use my position as his editor to deflect his story in my own interest, but I am obliged to protest here against the turn he gives these occurrences. He says nothing about that gasping message on the blood-stained paper in which he told, or attempted to tell, a very different story. The dignified self-surrender is an altogether new view of the affair that has come to him, I must insist, since he began to feel secure among the lunar people; and as for the "stealing a march" conception, I am quite willing to let the reader decide between us on what he has before him. I know I am not a model man—I have made no pretence to be. But am I *that*?

However, that is the sum of my wrongs. From this point I can edit Cavor with an untroubled mind, for he mentions me no more.

It would seem the Selenites who had come upon him carried him to some point in the interior down "a great shaft" by means of what he describes as "a sort of balloon." We gather from the rather confused passage in which he describes this, and from a number of chance allusions and hints in other and subsequent messages, that this "great shaft" is one of an enormous system of artificial shafts that run, each from what is called a lunar "crater," downwards for very nearly a hundred miles towards the central portion of our satellite. These shafts communicate by transverse tunnels, they throw out abysmal caverns and expand into great globular places; the whole of the moon's substance for a hundred miles inward, indeed, is a mere sponge of rock. "Partly," says Cavor, "this sponginess is natural, but very largely it is due to the enormous industry of the Selenites in the past. The enormous circular mounds of the excavated rock and earth it is that form these great circles about the tunnels known to earthly astronomers (misled by a false analogy) as volcanoes."

It was down this shaft they took him, in this "sort of balloon" he speaks of, at first into an inky blackness and then into a region of continually increasing phosphorescence. Cavor's despatches show him to be curiously regardless of detail for a scientific man, but we gather that this light was due to the streams and cascades of water—"no doubt containing some phosphorescent organism" —that flowed ever more abundantly downward towards the Central Sea. And as he descended, he says, "The Selenites also became luminous." And at last far below him he saw, as it were, a lake of heatless fire, the waters of the Central Sea, glowing and eddying in strange perturbation, "like luminous blue milk that is just on the boil."

"This Lunar Sea," says Cavor, in a later passage "is not a stagnant ocean; a solar tide sends it in a perpetual flow around the lunar axis, and strange storms and boilings and rushings of its waters occur, and at times cold winds and thunderings that ascend out of it into the busy ways of the great anthill above. It is only when the water is in motion that it gives out light; in its rare seasons of calm it is black. Commonly, when one sees it, its waters rise and fall in an oily swell, and flakes and big rafts of shining, bubbly foam drift with the sluggish, faintly glowing current. The Selenites navigate its cavernous straits and lagoons in little shallow boats of a canoe-like shape; and even before my journey to the galleries about the Grand Lunar, who is Master of the Moon, I was permitted to make a brief excursion on its waters.

"The caverns and passages are naturally very tortuous. A large proportion of these ways are known only to expert pilots among the fishermen, and not infrequently Selenites are lost for ever in their labyrinths. In their remoter recesses, I am told, strange creatures lurk, some of them terrible and dangerous creatures that all the science of the moon has been unable to exterminate. There is particularly the Rapha, an inextricable mass of clutching tentacles that one hacks to pieces only to multiply; and the Tzee, a darting creature that is never seen, so subtly and suddenly does it slay. . . ."

He gives us a gleam of description.

"I was reminded on this excursion of what I have read of the Mammoth Caves; if only I had had a yellow flambeau instead of the pervading blue light, and a solid-looking boatman with an oar instead of a scuttle-faced Selenite working an engine at the back of the canoe, I could have imagined I had suddenly got back to earth. The rocks about us were very various, sometimes black, sometimes pale blue and veined, and once they flashed and glittered as though we had come into a mine of sapphires. And below one saw the ghostly phosphorescent fishes flash and vanish in the hardly less phosphorescent deep. Then, presently, a long ultra-marine vista down the turgid stream of one of the channels of traffic, and a landing stage, and then, perhaps, a glimpse up the enormous crowded shaft of one of the vertical ways.

"In one great place heavy with glistening stalactites a number of boats were fishing. We went alongside one of these and watched the long-armed fishing Selenites winding in a net. They were little, hunchbacked insects, with very strong arms, short, bandy legs, and crinkled face-masks. As they pulled at it that net seemed the heaviest thing I had come upon in the moon; it was loaded with weights—no doubt of gold—and it took a long time to draw, for in those waters the larger and more edible fish lurk deep. The fish in the net came up like a blue moonrise—a blaze of darting, tossing blue.

"Among their catch was a many-tentaculate, evil-eyed black thing, ferociously active, whose appearance they greeted with shrieks and twitters, and which with quick, nervous movements they hacked to pieces by means of little hatchets. All its dissevered limbs continued to lash and writhe in a vicious manner. Afterwards, when fever had hold of me, I dreamed again and again of that bitter, furious creature rising so vigorous and active out of the unknown sea. It was the most active and malignant thing of all the living creatures I have yet seen in this world inside the moon. . . .

"The surface of this sea must be very nearly two hundred miles (if not more) below the level of the moon's exterior; all the cities of the moon lie, I learned, immediately above this Central Sea, in such cavernous spaces and artificial galleries as I have described, and they communicate with the exterior by enormous vertical shafts which open invariably in what are called by earthly astronomers the 'craters' of the moon. The lid covering one such aperture I had already seen during the wanderings that had preceded my capture.

"Upon the condition of the less central portion of the moon I have not yet arrived at very precise knowledge. There is an enormous system of caverns in which the mooncalves shelter during the night; and there are abattoirs and the like—in one of these it was that I and Bedford fought with the Selenite butchers—and I have since seen balloons laden with meat descending out of the upper dark. I have as yet scarcely learned as much of these things as a Zulu in London would learn about the British corn supplies in the same time. It is clear, however, that these vertical shafts and the vegetation of the surface must play an essential rôle in ventilating and keeping fresh the atmosphere of the moon. At one time, and particularly on my first emergence from my prison, there was certainly a cold wind blowing *down* the shaft, and later there was a kind of sirocco upward that corresponded with my fever. For at the end of about three weeks I fell ill of an indefinable sort of fever, and in spite of sleep and the quinine tabloids that very fortunately I had brought in my pocket, I remained ill and fretting miserably, almost to the time when I was taken into the presence of the Grand Lunar, who is Master of the Moon.

"I will not dilate on the wretchedness of my condition," he remarks, "during those days of ill-health." And he goes on with great amplitude with details I omit here. "My temperature," he concludes, "kept abnormally high for a long time, and I lost all desire for food. I had stagnant waking intervals, and sleep tormented by dreams, and at one phase I was, I remember, so weak as to be earth-sick and almost hysterical. I longed almost intolerably for colour to break the everlasting blue. . . ."

He reverts again presently to the topic of this sponge-caught lunar atmosphere. I am told by astronomers and physicists that all he tells is in absolute accordance with what was already known of the moon's condition. Had earthly astronomers had the courage and imagination to push home a bold induction, says Mr. Wendigee, they might have foretold almost everything that Cavor has to say of the general structure of the moon. They know now pretty certainly that moon and earth are not so much satellite and primary as smaller and greater sisters, made out of one mass, and consequently made of the same material. And since the density of the moon is only three-fifths that of the earth, there can be nothing for it but that she is hollowed out by a great system of caverns. There was no necessity, said Sir Jabez Flap, F.R.S., that most entertaining exponent of the facetious side of the stars, that we should ever have gone to the moon to find out such easy inferences, and follows it up with an allusion to Gruyère cheese, but he might have announced his knowledge of the hollowness of the moon before. And if the moon is hollow, then the apparent absence of air and water is, of course, quite easily explained. The sea lies within at the bottom of the caverns, and the air travels through the great sponge of galleries, in accordance with simple physical laws. The caverns of the moon, on the whole, are very windy places. As the sunlight comes around the moon the air in the outer galleries on that side is heated, its pressure increases, some flows out on the exterior and mingles with the evaporating air of the craters (where the plants remove its carbonic acid), while the greater portion flows round through the galleries to replace the shrinking air of the cooling side that the sunlight has left. There is, therefore, a constant eastward breeze in the air of the outer galleries, and an up-flow during the lunar day up the shafts, complicated, of course, very greatly by the varying shape of the galleries, and the ingenious contrivances of the Selenite mind. . . .

CHAPTER XXIV

The Natural History of the Selenites

THE messages of Cavor from the sixth up to the sixteenth are for the most part so much broken, and they abound so in repetitions, that they scarcely form a consecutive narrative. They will be given in full, of course, in the scientific report, but here it will be far more convenient to continue simply to abstract and quote as in the former chapter. We have subjected every word to a keen critical scrutiny, and my own brief memories and impressions of lunar things have been of inestimable help in interpreting what would otherwise have been impenetrably dark. And, naturally, as living beings, our interest centres far more upon the strange community of lunar insects in which he was living, it would seem, as an honoured guest than upon the mere physical condition of their world.

I have already made it clear, I think, that the Selenites I saw resembled man in maintaining the erect attitude, and in having four limbs, and I have compared the general appearance of their heads and the jointing of their limbs to that of insects. I have mentioned, too, the peculiar consequence of the smaller gravitation of the moon on their fragile slightness. Cavor confirms me upon all these points. He calls them "animals," though of course they fall under no division of the classification of earthly creatures, and he points out "the insect type of anatomy had, fortunately for men, never exceeded a relatively very small size on earth." The largest terrestrial insects, living or extinct, do not, as a matter of fact, measure 6 in. in length; "but here, against the lesser gravitation of the moon, a creature certainly as much an insect as vertebrate seems to have been able to attain to human and ultra-human dimensions."

He does not mention the ant, but throughout his allusions the ant is continually being brought before my mind, in its sleepless activity, in its intelligence and social organisation, in its structure, and more particularly in the fact that it displays, in addition to the two forms, the male and the female form, that almost all other animals possess a number of other sexless creatures, workers, soldiers, and the like, differing from one another in structure, character, power, and use, and yet all members of the same species. For these Selenites, also, have a great variety of forms. Of course, they are not only colossally greater in size than ants, but also, in Cavor's opinion at least, in intelligence, morality, and social wisdom are they colossally greater than men. And instead of the four or five different forms of ant that are found, there are almost innumerably different forms of Selenite. I have endeavoured to indicate the very considerable difference observable in such Selenites of the outer crust as I happened to encounter; the differences in size and proportions were certainly as wide as the differences between the most widely separated races of men. But such differences as I saw fade absolutely to nothing in comparison with the huge distinctions of which Cavor tells. It would seem the exterior Selenites I saw, were, indeed, mostly engaged in kindred occupations—mooncalf herds, butchers, fleshers, and the like. But within the moon, practically unsuspected by me, there are, it seems, a number of other sorts of Selenite, differing in size, differing in the relative size of part to part, differing in power and appearance, and yet not different species of creatures, but only different forms of one species, and retaining through all their variations a certain common likeness that marks their specific unity. The moon is, indeed, a sort of vast ant-hill, only, instead of there being only four or five sorts of ant, there are many hundred different sorts of Selenite, and almost every gradation between one sort and another.

It would seem the discovery came upon Cavor very speedily. I infer rather than learn from his narrative that he was captured by the mooncalf herds under the direction of those other Selenites who "have larger brain cases (heads?) and very much shorter legs." Finding he would not walk even under the goad, they carried him into darkness, crossed a narrow, plank-like bridge that may have been the identical bridge I had refused, and put him down in something that must have seemed at first to be some sort of lift. This was the balloon—it had certainly been absolutely invisible to us in the darkness—and what had seemed to me a mere plank-walking into the void was really, no doubt, the passage of the gangway. In this he descended towards constantly more luminous caverns of the moon. At first they descended in silence—save for the twitterings of the Selenites—and then into a stir of windy movement. In a little while the profound blackness had made his eyes so sensitive that he began to see more and more of the things about him, and at last the vague took shape.

"Conceive an enormous cylindrical space," says Cavor in his seventh message, "a quarter of a mile across, perhaps; very dimly lit at first and then brighter, with big platforms twisting down its sides in a spiral that vanishes at last below in a blue profundity; and lit even more brightly—one could not tell how or why. Think of the well of the very largest spiral staircase or lift-shaft that you have ever looked down, and magnify that by a hundred. Imagine it at twilight seen through blue glass. Imagine yourself looking down that; only imagine also that you feel extraordinarily light, and have got rid of any giddy feeling you might have on earth, and you will have the first conditions of my impression. Round this enormous shaft imagine a broad gallery running in a much steeper spiral than would be credible on earth, and forming a steep road protected from the gulf only by a little parapet that vanishes at last in perspective a couple of miles below.

"Looking up, I saw the very fellow of the downward vision; it had, of course, the effect of looking into a very steep cone. A wind was blowing down the shaft, and far above I fancy I heard, growing fainter and fainter, the bellowing of the mooncalves that were being driven down again from their evening pasturage on the exterior. And up and down the spiral galleries were scattered numerous moon people, pallid, faintly self-luminous beings, regarding our appearance or busied on unknown errands.

"Either I fancied it or a flake of snow came drifting down on the icy breeze. And then, falling like a snowflake, a little figure, a little man-insect, clinging to a parachute, drove down very swiftly towards the central places of the moon.

"The big-headed Selenite sitting beside me, seeing me move my head with the gesture of one who saw, pointed with his trunk-like 'hand' and indicated a sort of jetty coming into sight very far below; a little landing-stage, as it were, hanging into the void. As it swept up towards us our pace diminished very rapidly, and in a few moments, as it seemed, we were abreast of it, and at rest. A mooring-rope was flung and grasped, and I found myself pulled down to a level with a great crowd of Selenites, who jostled to see me.

"It was an incredible crowd. Suddenly and violently there was forced upon my attention the vast amount of difference there is amongst these beings of the moon.

"Indeed, there seemed not two alike in all that jostling multitude. They differed in shape, they differed in size, they rang all the horrible changes on the theme of Selenite form! Some bulged and overhung, some ran about among the feet of their fellows. All of them had a grotesque and disquieting suggestion of an insect that has somehow contrived to mock humanity; but all seemed to present an incredible exaggeration of some particular feature: one had a vast right fore-limb, an enormous antennal arm, as it were; one seemed all leg, poised, as it were, on stilts; another protruded the edge of his face mask into a nose-like organ that made him startlingly human until one saw his expressionless gaping mouth. The strange and (except for the want of mandibles and palps) most insect-like head of the mooncalf-minders underwent, indeed, the most incredible transformations: here it was broad and low, here high and narrow; here its leathery brow was drawn out into horns and strange features; here it was whiskered and divided, and there with a grotesquely human profile. One distortion was particularly conspicuous. There were several brain cases distended like bladders to a huge size, with the face mask reduced to quite small proportions. There were several amazing forms, with heads reduced to microscopic proportions and blobby bodies; and fantastic, flimsy things that existed, it would seem, only as a basis for vast, trumpet-like protrusions of the lower part of the mask. And oddest of all, as it seemed to me for the moment, two or three of these weird inhabitants of a subterranean world, a world sheltered by innumerable miles of rock from sun or rain, *carried umbrellas* in their tentaculate hands!—real terrestrial-looking umbrellas! And then I thought of the parachutist I had watched descend.

"These moon people behaved exactly as a human crowd might have done in similar circumstances: they jostled and thrust one another, they shoved one another aside, they even clambered upon one another to get a glimpse of me. Every moment they increased in numbers and pressed more urgently upon the discs of my ushers"—Cavor does not explain what he means by this—"every moment fresh shapes emerged from the shadows and forced themselves upon my astounded attention. And presently I was signed and helped into a sort of litter, and lifted up on the shoulders of strong-armed bearers, and so borne through the twilight over this seething multitude towards the apartments that were provided for me in the moon. All about me were eyes, faces, masks, a leathery noise like the rustling of beetle wings, and a great bleating and cricket-like twittering of Selenite voices. . . ."

We gather he was taken to a "hexagonal apartment," and there for a space he was confined. Afterwards he was given a much more considerable liberty; indeed, almost as much freedom as one has in a civilized town on earth. And it would appear that the mysterious being who is the ruler and master of the moon appointed two Selenites "with large heads" to guard and study him, and to establish whatever mental communications were possible with him. And, amazing and incredible as it may seem, these two creatures, these fantastic men insects, these beings of another world, were presently communicating with Cavor by means of terrestrial speech.

Cavor speaks of them as Phi-oo and Tsi-puff. Phi-oo, he says, was about 5ft. high; he had small slender legs about 18in. long, and slight feet of the common lunar pattern. On these balanced a little body, throbbing with the pulsations of his heart. He had long, soft, many-jointed arms ending in a tentacled grip, and his neck was many-jointed in the usual way, but exceptionally short and thick. His head, says Cavor—apparently alluding to some previous description that has gone astray in space—"is of the common lunar type, but strangely modified. The mouth has the usual expressionless gape, but it is unusually small and pointing downward, and the mask is reduced to the size of a large flat nose-flap. On either side are the little eyes.

"The rest of the head is distended into a huge globe, and the chitinous leathery cuticle of the mooncalf herds thins out to a mere membrane, through which the pulsating brain movements are distinctly visible. He is a creature, indeed, with a tremendously hypertrophied brain, and with the rest of his organism both relatively and absolutely dwarfed."

In another passage Cavor compares the back view of him to Atlas supporting the world. Tsi-puff, it seems, was a very similar insect, but his "face" was drawn out to a considerable length, and the brain-hypertrophy being in different regions, his head was not round but pear-shaped, with the stalk downward. There were also litter-carriers, lop-sided beings with enormous shoulders, very spidery ushers, and a squat foot attendant in Cavor's retinue.

The manner in which Phi-oo and Tsi-puff attacked the problem of speech was fairly obvious. They came into this "hexagonal cell" in which Cavor was confined, and began imitating every sound he made, beginning with a cough. He seems to have grasped their intention with great quickness, and to have begun repeating words to them and pointing to indicate the application. The procedure was probably always the same. Phi-oo would attend to Cavor for a space, then point also and say the word he had heard.

The first word he mastered was "man," and the second "Mooney"—which Cavor on the spur of the moment seems to have used instead of "Selenite" for the moon race. As soon as Phi-oo was assured of the meaning of a word he repeated it to Tsi-puff, who remembered it infallibly. They mastered over one hundred English nouns at their first session.

Subsequently it seems they brought an artist with them to assist the work of explanation with sketches and diagrams—Cavor's drawings being rather crude. He was, says Cavor, "a being with an active arm and an arresting eye," and he seemed to draw with incredible swiftness.

The eleventh message is undoubtedly only a fragment of a longer communication. After some broken sentences, the record of which is unintelligible, it goes on:—

"But it will interest only linguists, and delay me too long, to give the details of the series of intent parleys of which these were the beginning, and, indeed, I very much doubt if I could give in anything like the proper order all the twistings and turnings that we made in our pursuit of mutual comprehension. Verbs were soon plain sailing—at least, such active verbs as I could express by drawings; some adjectives were easy, but when it came to abstract nouns, to prepositions, and the sort of hackneyed figures of speech, by means of which so much is expressed on earth, it was like diving in cork-jackets. Indeed, these difficulties were insurmountable until to the sixth lesson came a fourth assistant, a being with a huge-football-shaped head, whose *forte* was clearly the pursuit of intricate analogy. He entered in a preoccupied manner, stumbling against a stool, and the difficulties that arose had to be presented to him with a certain amount of clamour and hitting and pricking before they reached his apprehension. But once he was involved his penetration was amazing. Whenever there came a need of thinking beyond Phi-oo's by no means limited scope, this prolate-headed person was in request, but he invariably told the conclusion to Tsi-puff, in order that it might be remembered; Tsi-puff was ever the arsenal for facts. And so we advanced again.

"It seemed long and yet brief—a matter of days before I was positively talking with these insects of the moon. Of course, at first it was an intercourse infinitely tedious and exasperating, but imperceptibly it has grown to comprehension. And my patience has grown to meet its limitations, Phi-oo it is who does all the talking. He does it with a vast amount of meditative provisional 'M'm—M'm,' and he has caught up one or two phrases, 'If I may say,' 'If you understand,' and beads all his speech with them.

"Thus he would discourse. Imagine him explaining his artist.

"'M'm—M'm—he—if I may say—draw. Eat little—drink little—draw. Love draw. No other thing. Hate all who not draw like him. Angry. Hate all who draw like him better. Hate most people. Hate all who not think all world for to draw. Angry. M'm. All things mean nothing to him—only draw. He like you . . . if you understand. . . . New thing to draw. Ugly—striking. Eh?

"'He'—turning to Tsi-puff—'love remember words. Remember wonderful more than any. Think no, draw no—remember. Say'—here he referred to his gifted assistant for a word—'histories—all things. He hear once—say ever.'

"It is more wonderful to me than I dreamed that anything ever could be again, to hear, in this perpetual obscurity, these extraordinary creatures—for even familiarity fails to weaken the inhuman effect of their appearance—continually piping a nearer approach to coherent earthly speech—asking questions, giving answers. I feel that I am casting back to the fable-hearing period of childhood again, when the ant and the grasshopper talked together and the bee judged between them. . . ."

And while these linguistic exercises were going on Cavor seems to have experienced a considerable relaxation of his confinement. "The first dread and distrust our unfortunate conflict aroused is being," he said, "continually effaced by the deliberate rationality of all I do." . . . "I am now able to come and go as I please, or I am restricted only for my own good. So it is I have been able to get at this apparatus, and, assisted by a happy find among the material that is littered in this enormous storecave, I have contrived to despatch these messages. So far not the slightest attempt has been made to interfere with me in this, though I have made it quite clear to Phi-oo that I am signalling to the earth.

"'You talk to other?' he asked, watching me.

"'Others,' said I.

"'Others,' he said. 'Oh yes. Men?'

"And I went on transmitting."

Cavor was continually making corrections in his previous accounts of the Selenites as fresh facts flowed in upon him to modify his conclusions, and accordingly one gives the quotations that follow with a certain amount of reservation. They are quoted from the ninth, thirteenth, and sixteenth messages, and, altogether vague and fragmentary as they are, they probably give as complete a picture of the social life of this strange community as mankind can now hope to have for many generations.

"In the moon," says Cavor, "every citizen knows his place. He is born to that place, and the elaborate discipline of training and education and surgery he undergoes fits him at last so completely to it that he has neither ideas nor organs for any purpose beyond it. 'Why should he?' Phi-oo would ask. If, for example, a selenite is destined to be a mathematician, his teachers and trainers set out at once to that end. They check any incipient disposition to other pursuits, they encourage his mathematical bias with a perfect psychological skill. His brain grows, or at least the mathematical faculties of his brain grow, and the rest of him only so much as is necessary to sustain this essential part of him. At last, save for rest and food, his one delight lies in the exercise and display of his faculty, his one interest in its application, his sole society with other specialists in his own line. His brain grows continually larger, at least so far as the portions engaging in mathematics are concerned; they bulge ever larger and seem to suck all life and vigour from the rest of his frame. His limbs shrivel, his heart and digestive organs diminish, his insect face is hidden under its bulging contours. His voice becomes a mere stridulation for the stating of formulæ; he seems deaf to all but properly enunciated problems. The faculty of laughter, save for the sudden discovery of some paradox, is lost to him; his deepest emotion is the evolution of a novel computation. And so he attains his end.

"Or, again, a Selenite appointed to be a minder of mooncalves is from his earliest years induced to think and live mooncalf, to find his pleasure in mooncalf lore, his exercise in their tending and pursuit. He is trained to become wiry and active, his eye is indurated to the tight wrappings, the angular contours that constitute a 'smart mooncalfishness.' He takes at last no interest in the deeper part of the moon; he regards all Selenites not equally versed in mooncalves with indifference, derision, or hostility. His thoughts are of mooncalf pastures, and his dialect an accomplished mooncalf technique. So also he loves his work, and discharges in perfect happiness the duty that justifies his being. And so it is with all sorts and conditions of Selenites—each is a perfect unit in a world machine. . . .

"These beings with big heads, on whom the intellectual labours fall, form a sort of aristocracy in this strange society, and at the head of them, quintessential of the moon, is that marvellous gigantic ganglion the Grand Lunar, into whose presence I am finally to come. The unlimited development of the minds of the intellectual class is rendered possible by the absence of any bony skull in the lunar anatomy, that strange box of bone that clamps about the developing brain of man, imperiously insisting 'thus far and no farther' to all his possibilities. They fall into three main classes differing greatly in influence and respect. There are the administrators, of whom Phi-oo is one, Selenites of considerable initiative and versatility, responsible each for a certain cubic content of the moon's bulk; the experts like the football-headed thinker, who are trained to perform certain special operations; and the erudite, who are the repositories of all knowledge. To this latter class belongs Tsi-puff, the first lunar professor of terrestrial languages. With regard to these latter, it is a curious little thing to note that the unlimited growth of the lunar brain has rendered unnecessary the invention of all those mechanical aids to brain work which have distinguished the career of man. There are no books, no records of any sort, no libraries or inscriptions. All knowledge is stored in distended brains much as the honey-ants of Texas store honey in their distended abdomens. The lunar Somerset House and the lunar British Museum Library are collections of living brains. . . .

"The less specialized administrators, I note, do for the most part take a very lively interest in me whenever they encounter me. They will come out of the way and stare at me and ask questions to which Phi-oo will reply. I see them going hither and thither with a retinue of bearers, attendants, shouters, parachute-carriers, and so forth—queer groups to see. The experts for the most part ignore me completely, even as they ignore each other, or notice me only to begin a clamorous exhibition of their distinctive skill. The erudite for the most part are rapt in an impervious and apoplectic complacency, from which only a denial of their erudition can rouse them. Usually they are led about by little watchers and attendants, and often there are small and active-looking creatures, small females usually, that I am inclined to think are a sort of wife to them; but some of the profounder scholars are altogether too great for locomotion, and are carried from place to place in a sort of sedan tub, wabbling jellies of knowledge that enlist my respectful astonishment. I have just passed one in coming to this place where I am permitted to amuse myself with these electrical toys, a vast, shaven, shaky head, bald and thin-skinned, carried on his grotesque stretcher. In front and behind came his bearers, and curious, almost trumpet-faced news disseminators shrieked his fame.

"I have already mentioned the retinues that accompany most of the intellectuals: ushers, bearers, valets, extraneous tentacles and muscles, as it were, to replace the abortive physical powers of these hypertrophied minds. Porters almost invariably accompany them. There are also extremely swift messengers with spider-like legs, and 'hands' for grasping parachutes, and attendants with vocal organs that could wellnigh wake the dead. Apart from their controlling intelligence these subordinates are as inert and helpless as umbrellas in a stand. They exist only in relation to the orders they have to obey, the duties they have to perform.

"The bulk of these insects, however, who go to and fro upon the spiral ways, who fill the ascending balloons and drop past me clinging to flimsy parachutes are, I gather, of the operative class. 'Machine hands, indeed, some of these are in actual nature—it is no figure of speech, the single tentacle of the mooncalf herd is profoundly modified for clawing, lifting, guiding, the rest of them no more than necessary subordinate appendages to these important parts. Some, who I suppose deal with bell-striking mechanisms, have enormously developed auditory organs; some whose work lies in delicate chemical operations project a vast olfactory organ; others again have flat feet for treadles with anchylosed joints; and others—who I have been told are glass-blowers—seem mere lung-bellows. But every one of these common Selenites I have seen at work is exquisitely adapted to the social need it meets. Fine work is done by fined-down workers, amazingly dwarfed and neat. Some I could hold on the palm of my hand. There is even a sort of turnspit Selenite, very common, whose duty and only delight it is to supply the motive power for various small appliances. And to rule over these things and order any erring tendency there might be in some aberrant natures are the most muscular beings I have seen in the moon, a sort of lunar police, who must have been trained from their earliest years to give a perfect respect and obedience to the swollen heads.

"The making of these various sorts of operative must be a very curious and interesting process. I am still very much in the dark about it, but quite recently I came upon a number of young Selenites confined in jars from which only the fore-limbs protruded, who were being compressed to become machine-minders of a special sort. The extended 'hand' in this highly developed system of technical education is stimulated by irritants and nourished by injection, while the rest of the body is starved. Phi-oo, unless I misunderstood him, explained that in the earlier stages these queer little creatures are apt to display signs of suffering in their various cramped situations, but they easily become indurated to their lot; and he took me on to where a number of flexible-limbed messengers were being drawn out and broken in. It is quite unreasonable, I know, but such glimpses of the educational methods of these beings affect me disagreeably. I hope, however, that may pass off, and I may be able to see more of this aspect of their wonderful social order. That wretched-looking hand-tentacle sticking out of its jar seemed to have a sort of limp appeal for lost possibilities; it haunts me still, although, of course, it is really in the end a far more humane proceeding than our earthly method of leaving children to grow into human beings, and then making machines of them.

"Quite recently, too—I think it was on the eleventh or twelfth visit I made to this apparatus—I had a curious light upon the lives of these operatives. I was being guided through a short cut hither, instead of going down the spiral and by the quays of the Central Sea. From the devious windings of a long, dark gallery, we emerged into a vast, low cavern, pervaded by an earthy smell, and as things go in this darkness, rather brightly lit. The light came from a tumultuous growth of livid fungoid shapes—some indeed singularly like our terrestrial mushrooms, but standing as high or higher than a man.

" 'Mooneys eat these?' said I to Phi-oo.

"'Yes, . . . this very good food for Mooneys,' he said.

"'Goodness me!' I cried; 'what's that?'

"My eye had just caught the figure of an exceptionally big and ungainly Selenite lying motionless among the stems, face downward. We stopped.

"'Dead?' I asked. (For as yet I have seen no dead in the moon, and I have grown curious.)

"'*No!*' exclaimed Phi-oo. 'Him—worker—no work to do. Get little drink then—make sleep—till we him want. What good him wake, eh? No want him walking about.'

"'There's another!' cried I.

"And indeed all that huge extent of mushroom ground was, I found, peppered with these prostrate figures sleeping under an opiate until the moon had need of them. There were scores of them of all sorts, and we were able to turn over some of them, and examine them more precisely than I had been able to do previously. They breathed noisily at my doing so, but did not wake. One, I remember very distinctly: he left a strong impression, I think, because some trick of the light and of his attitude was strongly suggestive of a drawn-up human figure. His fore-limbs were long, delicate tentacles—he was some kind of refined manipulator—and the pose of his slumber suggested a submissive suffering. No doubt it was quite a mistake for me to interpret his expression in that way, but I did. And as Phi-oo rolled him over into the darkness among the livid fleshiness again, I felt a distinctly unpleasant sensation, although as he rolled the insect in him was confessed.

"It simply illustrates the unthinking way in which one acquires habits of feeling. To drug the worker one does not want and toss him aside is surely far better than to expel him from his factory to wander starving in the streets. In every complicated social community there is necessarily a certain intermittency of employment for all specialized labour, and in this way the trouble of an 'unemployed' problem is altogether anticipated. And yet, so unreasonable are even scientifically trained minds, I still do not like the memory of those prostrate forms amidst those quiet, luminous arcades of fleshy growth, and I avoid that short cut in spite of the inconveniences of the longer, more noisy, and more crowded alternative.

"My alternative route takes me round by a huge, shadowy cavern, very crowded and clamorous, and here it is I see peering out of the hexagonal openings of a sort of honeycomb wall, or parading a large open space behind, or selecting the toys and amulets made to please them by the dainty-tentacled jewellers who work in kennels below, the mothers of the moon world—the queen bees, as it were, of the hive. They are noble-looking beings, fantastically and sometimes quite beautifully adorned, with a proud carriage, and, save for their mouths, with almost microscopic heads.

"Of the condition of the moon sexes, marrying and giving in marriage, and of birth and so forth among the Selenites, I have as yet been able to learn very little. With the steady progress of Phi-oo in English, however, my ignorance will no doubt as steadily disappear. I am of opinion that, as with the ants and bees, there is a large majority of the members in this community of the neuter sex. Of course on earth in our cities there are now many who never live that life of parentage which is the natural life of man. Here, as with the ants, this thing has become a normal condition of the race, and the whole of such replacement as is necessary falls upon this special and by no means numerous class of matrons, the mothers of the moon-world, large and stately beings beautifully fitted to bear the larval Selenite. Unless I misunderstand an explanation of Phi-oo's, they are absolutely incapable of cherishing the young they bring into the moon; periods of foolish indulgence alternate with moods of aggressive violence, and as soon as possible the little creatures, who are quite soft and flabby and pale coloured, are transferred to the charge of celibate females, women 'workers' as it were, who in some cases possess brains of almost masculine dimensions."

Just at this point, unhappily, this message broke off. Fragmentary and tantalising as the matter constituting this chapter is, it does nevertheless give a vague, broad impression of an altogether strange and wonderful world—a world with which our own may have to reckon we know not how speedily. This intermittent trickle of messages, this whispering of a record needle in the stillness of the mountain slopes, is the first warning of such a change in human conditions as mankind has scarcely imagined heretofore. In that satellite of ours there are new elements, new appliances, new traditions, an overwhelming avalanche of new ideas, a strange race with whom we must inevitably struggle for mastery—gold as common as iron or wood. . . .

CHAPTER XXV

The Grand Lunar

THE penultimate message describes, with occasionally even elaborate detail, the encounter between Cavor and the Grand Lunar, who is the ruler or master of the moon. Cavor seems to have sent most of it without interference, but to have been interrupted in the concluding portion. The second came after an interval of a week.

The first message begins: "At last I am able to resume this——" it then becomes illegible for a space, and after a time resumed in mid-sentence.

The missing words of the following sentence are probably "the crowd." There follows quite clearly: "grew ever denser as we drew near the palace of the Grand Lunar—if I may call a series of excavations a palace. Everywhere faces stared at me—blank, chitinous gapes and masks, eyes peering over tremendous olfactory developments, eyes beneath monstrous forehead plates; and undergrowth of smaller creatures dodged and yelped, and helmet faces poised on sinuous, long-jointed necks appeared craning over shoulders and beneath armpits. Keeping a welcome space about me marched a cordon of stolid, scuttle-headed guards, who had joined us on our leaving the boat in which we had come along the channels of the Central Sea. The quick-eyed artist with the little brain joined us also, and a thick bunch of lean porter-insects swayed and struggled under the multitude of conveniences that were considered essential to my state. I was carried in a litter during the final stage of our journey. This litter was made of some very ductile metal that looked dark to me, meshed and woven, and with bars of paler metal, and about me as I advanced there grouped itself a long and complicated procession.

"In front, after the manner of heralds, marched four trumpet-faced creatures making a devastating bray; and then came squat, resolute-moving ushers before and behind, and on either hand a galaxy of learned heads, a sort of animated encyclopædia, who were, Phi-oo explained, to stand about the Grand Lunar for purposes of reference. (Not a thing in lunar science, not a point of view or method of thinking, that these wonderful beings did not carry in their heads!) Followed guards and porters, and then Phi-oo's shivering brain borne also on a litter. Then came Tsi-puff in a slightly less important litter; then myself on a litter of greater elegance than any other, and surrounded by my food and drink attendants. More trumpeters came next, splitting the ear with vehement outcries, and then several big brains, special correspondents one might well call them, or historiographers, charged with the task of observing and remembering every detail of this epoch-making interview. A company of attendants, bearing and dragging banners and masses of scented fungus and curious symbols, vanished in the darkness behind. The way was lined by ushers and officers in caparisons that gleamed like steel, and beyond their line, so far as my eyes could pierce the gloom, the heads of that enormous crowd extended.

"I will own that I am still by no means indurated to the peculiar effect of the Selenite appearance, and to find myself, as it were, adrift on this broad sea of excited entomology was by no means agreeable. Just for a space I had something very like what I should imagine people mean when they speak of the 'horrors.' It had come to me before in these lunar caverns, when on occasion I have found myself weaponless and with an undefended back, amidst a crowd of these Selenites, but never quite so vividly. It is, of course, as absolutely irrational a feeling as one could well have, and I hope gradually to subdue it. But just for a moment, as I swept forward into the welter of the vast crowd, it was only by gripping my litter tightly and summoning all my will-power that I succeeded in avoiding an outcry or some such manifestation. It lasted perhaps three minutes; then I had myself in hand again.

"We ascended the spiral of a vertical way for some time, and then passed through a series of huge halls, dome-roofed and elaborately decorated. The approach to the Grand Lunar was certainly contrived to give one a vivid impression of his greatness. Each cavern one entered seemed greater and more boldly arched than its predecessor. This effect of progressive size was enhanced by a thin haze of faintly phosphorescent blue incense that thickened as one advanced, and robbed even the nearer figures of clearness. I seemed to advance continually to something larger, dimmer, and less material.

"I must confess that all this multitude made me feel extremely shabby and unworthy. I was unshaven and unkempt; I had brought no razor; I had a coarse beard over my mouth. On earth I have always been inclined to despise any attention to my person beyond a proper care for cleanliness; but under the exceptional circumstances in which I found myself, representing, as I did, my planet and my kind, and depending very largely upon the attractiveness of my appearance for a proper reception, I could have given much for something a little more artistic and dignified than the husks I wore. I had been so serene in the belief that the moon was uninhabited as to overlook such precautions altogether. As it was I was dressed in a flannel jacket, knickerbockers, and golfing stockings, stained with every sort of dirt the moon offered; slippers (of which the left heel was wanting), and a blanket, through a hole in which I thrust my head. (These clothes, indeed, I still wear.) Sharp bristles are anything but an improvement to my cast of features, and there was an unmended tear at the knee of my knickerbockers that showed conspicuously as I squatted in my litter; my right stocking, too, persisted in getting about my ankle. I am fully alive to the injustice my appearance did humanity, and if by any expedient I could have improvised something a little out of the way and imposing I would have done so. But I could hit upon nothing. I did what I could with my blanket—folding it somewhat after the fashion of a toga, and for the rest I sat as upright as the swaying of my litter permitted.

"Imagine the largest hall you have ever been in, imperfectly lit with blue light and obscured by a gray-blue fog, surging with metallic or livid-gray creatures of such a mad diversity as I have hinted. Imagine this hall to end in an open archway beyond which is a still larger hall, and beyond this yet another and still larger one, and so on. At the end of the vista, dimly seen, a flight of steps, like the steps of Ara Cœli at Rome, ascend out of sight. Higher and higher these steps appear to go as one draws nearer their base. But at last I came under a huge archway and beheld the summit of these steps, and upon it the Grand Lunar exalted on his throne.

"He was seated in what was relatively a blaze of incandescent blue. This, and the darkness about him, gave him an effect of floating in a blue-black void. He seemed a small, self-luminous cloud at first, brooding on his sombre throne; his brain case must have measured many yards in diameter. For some reason that I cannot fathom a number of blue search-lights radiated from behind the throne on which he sat, and immediately encircling him was a halo. About him, and little and indistinct in this glow, a number of body-servants sustained and supported him, and overshadowed and standing in a huge semicircle beneath him were his intellectual subordinates, his remembrancers and computators and searchers and servants, and all the distinguished insects of the court of the moon. Still lower stood ushers and messengers, and then all down the countless steps of the throne were guards, and at the base, enormous, various, indistinct, vanishing at last into an absolute black, a vast swaying multitude of the minor dignitaries of the moon. Their feet made a perpetual scraping whisper on the rocky floor, their limbs moved with a rustling murmur.

"As I entered the penultimate hall the music rose and expanded into an imperial magnificence of sound, and the shrieks of the news-bearers died away. . . .

"I entered the last and greatest hall. . . .

"My procession opened out like a fan. My ushers and guards went right and left, and the three litters bearing myself and Phi-oo and Tsi-puff marched across a shiny darkness of floor to the foot of the giant stairs. Then began a vast throbbing hum, that mingled with the music. The two Selenites dismounted, but I was bidden to remain seated—I imagine as a special honour. The music ceased, but not that humming, and by a simultaneous movement of ten thousand respectful heads my attention was directed to the enhaloed supreme intelligence that hovered above me.

"At first as I peered into the radiating glow this quintessential brain looked very much like an opaque, featureless bladder with dim, undulating ghosts of convolutions writhing visibly within. Then beneath its enormity and just above the edge of the throne one saw with a start minute elfin eyes peering out of the glow. No face, but eyes, as if they peered through holes. At first I could see no more than these two staring little eyes, and then below I distinguished the little dwarfed body and its insect-jointed limbs shrivelled and white. The eyes stared down at me with a strange intensity, and the lower part of the swollen globe was wrinkled. Ineffectual-looking little hand-tentacles steadied this shape on the throne. . . .

"It was great. It was pitiful. One forgot the hall and the crowd.

"I ascended the staircase by jerks. It seemed to me that this darkly glowing brain case above us spread over me, and took more and more of the whole effect into itself as I drew nearer. The tiers of attendants and helpers grouped about their master seemed to dwindle and fade into the night. I saw that shadowy attendants were busy spraying that great brain with a cooling spray, and patting and sustaining it. For my own part, I sat gripping my swaying litter and staring at the Grand Lunar, unable to turn my gaze aside. And at last, as I reached a little landing that was separated only by ten steps or so from the supreme seat, the woven splendour of the music reached a climax and ceased, and I was left naked, as it were, in that vastness, beneath the still scrutiny of the Grand Lunar's eyes.

"He was scrutinising the first man he had ever seen. . . .

"My eyes dropped at last from his greatness to the faint figures in the blue mist about him, and then down the steps to the massed Selenites, still and expectant in their thousands, packed on the floor below. Once again an unreasonable horror reached out towards me. . . . And passed.

"After the pause came the salutation. I was assisted from my litter, and stood awkwardly while a number of curious and no doubt deeply symbolical gestures were vicariously performed for me by two slender officials. The encyclopædic galaxy of the learned that had accompanied me to the entrance of the last hall appeared two steps above me and left and right of me, in readiness for the Grand Lunar's need, and Phi-oo's pale brain placed itself about half-way up to the throne in such a position as to communicate easily between us without turning his back on either the Grand Lunar or myself. Tsi-puff took up a position behind him. Dexterous ushers sidled sideways towards me, keeping a full face to the Presence. I seated myself Turkish fashion, and Phi-oo and Tsi-puff also knelt down above me. There came a pause. The eyes of the nearer court went from me to the Grand Lunar and came back to me, and a hissing and piping of expectation passed across the hidden multitudes below and ceased.

"That humming ceased.

"For the first and last time in my experience the moon was silent.

"I became aware of a faint wheezy noise. The Grand Lunar was addressing me. It was like the rubbing of a finger upon a pane of glass.

"I watched him attentively for a time, and then glanced at the alert Phi-oo. I felt amidst these slender beings ridiculously thick and fleshy and solid; my head all jaw and black hair. My eyes went back to the Grand Lunar. He had ceased; his attendants were busy, and his shining superficies was glistening and running with cooling spray.

"Phi-oo meditated through an interval. He consulted Tsi-puff. Then he began piping his recognizable English—at first a little nervously, so that he was not very clear.

" 'M'm—the Grand Lunar—wishes to say—wishes to say—he gathers you are—m'm—men—that you are a man from the planet earth. He wishes to say that he welcomes you—welcomes you—and wishes to learn—learn, if I may use the word—the state of your world, and the reason why you came to this.'

"He paused. I was about to reply when he resumed. He proceeded to remarks of which the drift was not very clear, though I am inclined to think they were intended to be complimentary. He told me that the earth was to the moon what the sun is to the earth, and that the Selenites desired very greatly to learn about the earth and men. He then told me, no doubt in compliment also, the relative magnitude and diameter of earth and moon, and the perpetual wonder and speculation with which the Selenites had regarded our planet. I meditated with downcast eyes, and decided to reply that men too had wondered what might lie in the moon, and had judged it dead, little recking of such magnificence as I had seen that day. The Grand Lunar, in token of recognition, caused his long blue rays to rotate in a very confusing manner, and all about the great hall ran the pipings and whisperings and rustlings of the report of what I had said. He then proceeded to put to Phi-oo a number of inquiries which were easier to answer.

"He understood, he explained, that we lived on the surface of the earth, that our air and sea were outside the globe; the latter part, indeed, he already knew from his astronomical specialists. He was very anxious to have more detailed information of what he called this extraordinary state of affairs, for from the solidity of the earth there had always been a disposition to regard it as uninhabitable. He endeavoured first to ascertain the extremes of temperature to which we earth beings were exposed, and he was deeply interested by my descriptive treatment of clouds and rain. His imagination was assisted by the fact that the lunar atmosphere in the outer galleries of the night side is not infrequently very foggy. He seemed inclined to marvel that we did not find the sunlight too intense for our eyes, and was interested in my attempt to explain that the sky was tempered to a bluish colour through the action of the air, though I doubt if he clearly understood that. I explained how the iris of the human eyes can contract the pupil and save the delicate internal structure from the excess of sunlight, and was allowed to approach within a few feet of the Presence in order that this structure might be seen. This led to a comparison of the lunar and terrestrial eyes. The former is not only excessively sensitive to such light as men can see, but it can also *see* heat, and every difference in temperature within the moon renders objects visible to it.

"The iris was quite a new organ to the Grand Lunar. For a time he amused himself by flashing his rays into my face and watching my pupils contract. As a consequence, I was dazzled and blinded for some little time. . . .

"But in spite of that discomfort I found something reassuring by insensible degrees in the rationality of this business of question and answer. I could shut my eyes, think of my answer, and almost forget that the Grand Lunar has no face. . . .

"When I had descended again to my proper place the Grand Lunar asked how we sheltered ourselves from heat and storms, and I expounded to him the arts of building and furnishing. Here we wandered into misunderstandings and cross-purposes, due largely, I must admit, to the looseness of my expressions. For a long time I had great difficulty in making him understand the nature of a house. To him and his attendant Selenites it seemed, no doubt, the most whimsical thing in the world that men should build houses when they might descend into excavations, and an additional complication was introduced by the attempt I made to explain that men had originally begun their homes in caves, and that they were now taking their railways and many establishments beneath the surface. Here I think a desire for intellectual completeness betrayed me. There was also a considerable tangle due to an equally unwise attempt on my part to explain about mines. Dismissing this topic at last in an incomplete state, the Grand Lunar inquired what we did with the interior of our globe.

"A tide of twittering and piping swept into the remotest corners of that great assembly when it was at last made clear that we men know absolutely nothing of the contents of the world upon which the immemorial generations of our ancestors had been evolved. Three times had I to repeat that of all the 4000 miles of substance between the earth and its centre men knew only to the depth of a mile, and that very vaguely. I understood the Grand Lunar to ask why had I come to the moon seeing we had scarcely touched our own planet yet, but he did not trouble me at that time to proceed to an explanation, being too anxious to pursue the details of this mad inversion of all his ideas.

"He reverted to the question of weather, and I tried to describe the perpetually changing sky, and snow, and frost, and hurricanes. 'But when the night comes,' he asked, 'is it not cold?'

"I told him it was colder than by day.

"'And does not your atmosphere freeze?'

"I told him not; that it was never cold enough for that, because our nights were so short.

"'Not even liquefy?'

"I was about to say 'No,' but then it occurred to me that one part at least of our atmosphere, the water vapour of it, does sometimes liquefy and form dew, and sometimes freeze and form frost—a process perfectly analogous to the freezing of all the external atmosphere of the moon during its longer night. I made myself clear on this point, and from that the Grand Lunar went on to speak with me of sleep. For the need of sleep that comes so regularly every twenty-four hours to all things is part also of our earthly inheritance. On the moon they rest only at rare intervals, and after exceptional exertions. Then I tried to describe to him the soft splendours of a summer night, and from that I passed to a description of those animals that prowl by night and sleep by day. I told him of lions and tigers, and here it seemed as though we had come to a deadlock. For, save in their waters, there are no creatures in the moon not absolutely domestic and subject to his will, and so it has been for immemorial years. They have monstrous water creatures, but no evil beasts, and the idea of anything strong and large existing 'outside' in the night is very difficult for them. . . .

[The record is here too broken to transcribe for the space of perhaps twenty words or more.]

"He talked with his attendants, as I suppose, upon the strange superficiality and unreasonableness of (man), who lives on the mere surface of a world, a creature of waves and winds, and all the chances of space, who cannot even unite to overcome the beasts that prey upon his kind, and yet who dares to invade another planet. During this aside I sat thinking, and then at his desire I told him of the different sorts of men. He searched me with questions. "And for all sorts of work you have the same sort of men. But who thinks? Who governs?'

"I gave him an outline of the democratic method.

"When I had done he ordered cooling sprays upon his brow, and then requested me to repeat my explanation conceiving something had miscarried.

"'Do they not do different things, then?' said Phi-oo.

"Some, I admitted, were thinkers and some officials; some hunted, some were mechanics, some artists, some toilers. 'But *all* rule,' I said.

"'And have they not different shapes to fit them to their different duties?'

" 'None that you can see,' I said, 'except perhaps, for clothes. Their minds perhaps differ a little,' I reflected.

" 'Their minds must differ a great deal,' said the Grand Lunar, 'or they would all want to do the same things.'

"In order to bring myself into a closer harmony with his preconceptions, I said that his surmise was right. 'It was all hidden in the brain,' I said; 'but the difference was there. Perhaps if one could see the minds and souls of men they would be as varied and unequal as the Selenites. There were great men and small men, men who could reach out far and wide, and men who could go swiftly; noisy, trumpet-minded men, and men who could remember without thinking. . . . [The record is indistinct for three words.]

"He interrupted me to recall me to my previous statement. 'But you said all men rule?' he pressed.

" 'To a certain extent,' I said, and made, I fear a denser fog with my explanation.

"He reached out to a salient fact. 'Do you mean,' he asked, 'that there is no Grand Earthly?'

"I thought of several people, but assured him finally there was none. I explained that such autocrats and emperors as we had tried upon earth had usually ended in drink, or vice, or violence, and that the large and influential section of the people of the earth to which I belonged, the Anglo-Saxons, did not mean to try that sort of thing again. At which the Grand Lunar was even more amazed.

" 'But how do you keep even such wisdom as you have?' he asked; and I explained to him the way we helped our limited [a word omitted here, probably "brains"] with libraries of books. I explained to him how our science was growing by the united labours of innumerable little men, and on that he made no comment save that it was evident we had mastered much in spite of our social savagery, or we could not have come to the moon. Yet the contrast was very marked. With knowledge the Selenites grew and changed; mankind stored its knowledge about itself and remained the brute — equipped. He said this . . . [Here there is a short piece of the record indistinct.]

"He then caused me to describe how we went about this earth of ours, and I described to him our railways and ships. For a time he could not understand that we had had the use of steam only one hundred years, but when he did he was clearly amazed. (I may mention as a singular thing that the Selenites use years to count by, just as we do on earth, though I can make nothing of their numeral system. That, however, does not matter, because Phi-oo understands ours.) From that I went on to tell him that mankind had dwelt in cities only for nine or ten thousand years, and that we were still not united in one brotherhood, but under many different forms of government. This astonished the Grand Lunar very much, when it was made clear to him. At first he thought we referred merely to administrative areas.

" 'Our States and Empires are still the rawest sketches of what order will some day be,' I said, and so I came to tell him. . . . [At this point a length of record that probably represents thirty or forty words is totally illegible.]

"The Grand Lunar was greatly impressed by the folly of men in clinging to the inconvenience of diverse tongues. 'They want to communicate, and yet not to communicate,' he said, and then for a long time he questioned me closely concerning war.

"He was at first perplexed and incredulous. 'You mean to say,' he asked, seeking confirmation, 'that you run about over the surface of your world—this world, whose riches you have scarcely begun to scrape—killing one another for beasts to eat?'

"I told him that was perfectly correct.

"He asked for particulars to assist his imagination. 'But do not ships and your poor little cities get injured?' he asked, and I found the waste of property and conveniences seemed to impress him almost as much as the killing. 'Tell me more,' said the Grand Lunar; 'make me see pictures. I cannot conceive these things.'

"And so, for a space, though something loath, I told him the story of earthly War.

"I told him of the first orders and ceremonies of war, of warnings and ultimatums, and the marshalling and marching of troops. I gave him an idea of manœuvres and positions and battle joined. I told him of sieges and assaults, of starvation and hardship in trenches, and of sentinels freezing in the snow. I told him of routs and surprises, and desperate last stands and faint hopes, and the pitiless pursuit of fugitives and the dead upon the field. I told, too, of the past, of invasions and massacres, of the Huns and Tartars, and the wars of Mahomet and the Caliphs, and of the Crusades. And as I went on, and Phi-oo translated, the Selenites cooed and murmured in a steadily intensified emotion.

"I told them an ironclad could fire a shot of a ton twelve miles, and penetrate several feet of iron —and how we could steer torpedoes under water. I went on to describe a Maxim gun in action, and what I could imagine of the Battle of Colenso. The Grand Lunar was so incredulous that he interrupted the translation of what I had said in order to have my verification of my account. They particularly doubted my description of the men cheering and rejoicing as they went into (?battle).

" 'But surely they do not like it!' translated Phi-oo.

"I assured them men of my race considered battle the most glorious experience of life, at which the whole assembly was stricken with amazement.

" 'But what good is this war?' asked the Grand Lunar, sticking to his theme.

" 'Oh! as for *good*!' said I; 'it thins the population!'

" 'But why should there be a need——?' . . .

"There came a pause, the cooling sprays impinged upon his brow, and then he spoke again."

[At this point a series of undulations that have been apparent as a perplexing complication as far back as Cavor's description of the silence that fell before the first speaking of the Grand Lunar become confusingly predominant in the record. These undulations are evidently the result of radiations proceeding from the lunar source, and their persistent approximation to the alternating signals of Cavor is curiously suggestive of some operator deliberately seeking to mix them in with his message and render it illegible. At first they are small and regular, so that with a little care and the loss of very few words we have been able to disentangle Cavor's message; then they become broad and larger, then suddenly they are irregular, with an irregularity that gives the effect at last of some one scribbling through a line of writing. For a long time nothing can be made of this madly zigzagging trace; then quite abruptly the interruption ceases, leaves a few words clear, and then resumes and continues for all the rest of the message, completely obliterating whatever Cavor was attempting to transmit. Why, if this is indeed a deliberate intervention, the Selenites should have preferred to let Cavor go on transmitting his message in happy ignorance of their obliteration of its record, when it was clearly quite in their power and much more easy and convenient for them to stop his proceedings at any time, is a problem to which I can contribute nothing. The thing seems to have happened so, and that is all I can say. This last rag of his description of the Grand Lunar begins in mid-sentence.]

"interrogated me very closely upon my secret. I was able in a little while to get to an understanding with them, and at last to elucidate what has been a puzzle to me ever since I realised the vastness of their science, namely, how it is they themselves have never discovered 'Cavorite.' I find they know of it as a theoretical substance, but they have always regarded it as a practical impossibility, because for some reason there is no helium in the moon, and helium——"

[Across the last letters of helium slashes the resumption of that obliterating trace. Note that word "secret," for on that, and that alone, I base my interpretation of the message that follows, the last message, as both Mr. Wendigee and myself now believe it to be, that he is ever likely to send us.]

CHAPTER XXVI

The Last Message Cavor Sent to the Earth

IN this unsatisfactory manner the penultimate message of Cavor dies out. One seems to see him away there in the blue obscurity amidst his apparatus intently signalling us to the last, all unaware of the curtain of confusion that drops between us; all unaware, too, of the final dangers that even then must have been creeping upon him. His disastrous want of vulgar common sense had utterly betrayed him. He had talked of war, he had talked of all the strength and irrational violence of men, of their insatiable aggressions, their tireless futility of conflict. He had filled the whole moon world with this impression of our race, and then I think it is plain that he made the most fatal admission that upon himself alone hung the possibility—at least for a long time—of any further men reaching the moon. The line the cold, inhuman reason of the moon would take seems plain enough to me, and a suspicion of it, and then perhaps some sudden sharp realization of it, must have come to him. One imagines him going about the moon with the remorse of this fatal indiscretion growing in his mind. During a certain time I am inclined to guess the Grand Lunar was deliberating the new situation, and for all that time Cavor may have gone as free as ever he had gone. But obstacles of some sort prevented his getting to his electro-magnetic apparatus again after that message I have just given. For some days we received nothing. Perhaps he was having fresh audiences, and trying to evade his previous admissions. Who can hope to guess?

And then suddenly, like a cry in the night, like a cry that is followed by a stillness, came the last message. It is the briefest fragment, the broken beginnings of two sentences.

The first was: "I was mad to let the Grand Lunar know——"

There was an interval of perhaps a minute. One imagines some interruption from without. A departure from the instrument—a dreadful hesitation among the looming masses of apparatus in that dim, blue-lit cavern—a sudden rush back to it, full of a resolve that came too late. Then, as if it were hastily transmitted, came: "Cavorite made as follows: take——"

There followed one word, a quite unmeaning word as it stands: "uless."

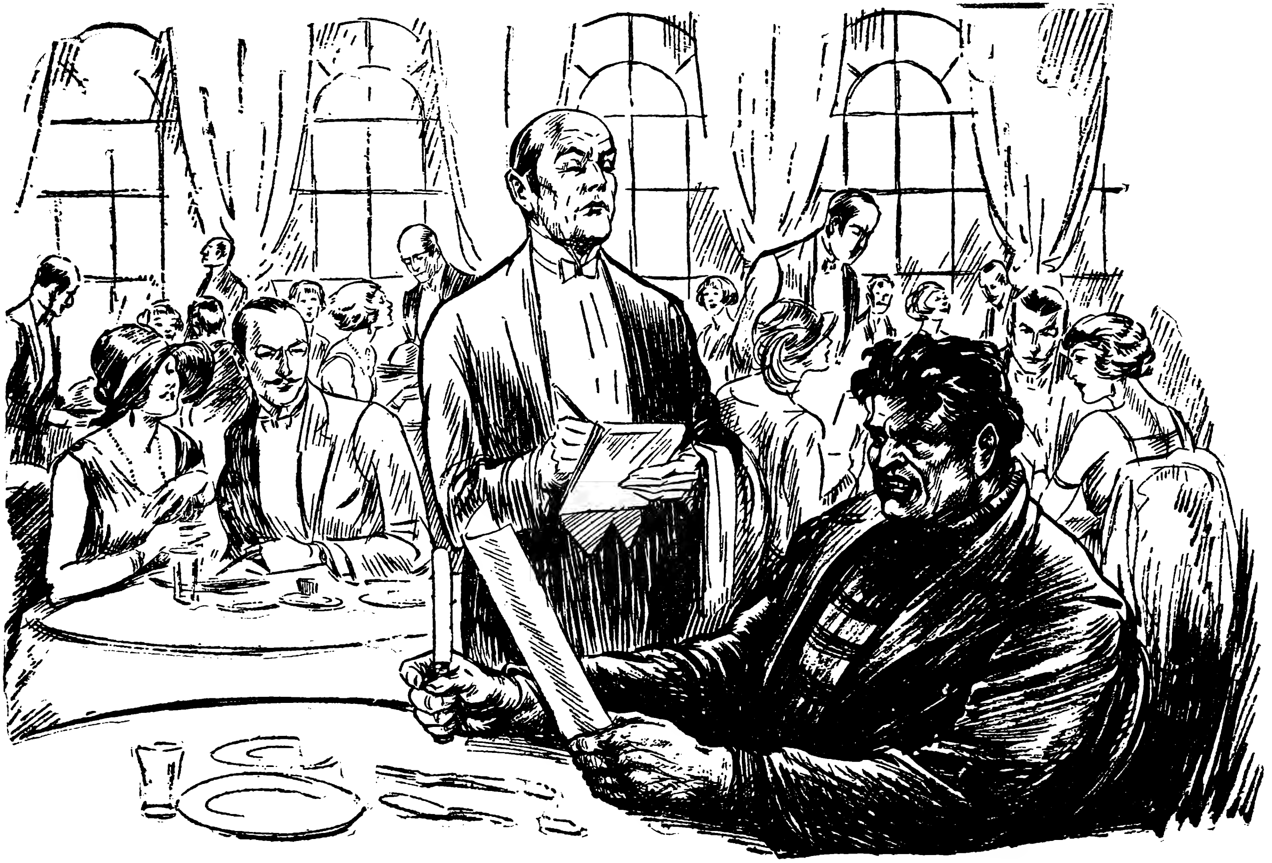
And that is all.

It may be he made a hasty attempt to spell "useless" when his fate was close upon him. Whatever it was that was happening about that apparatus we cannot tell. Whatever it was we shall never, I know, receive another message from the moon. For my own part a vivid dream has come to my help, and I see, almost as plainly as though I had seen it in actual fact, a blue-lit shadowy dishevelled Cavor struggling in the grip of these insect Selenites, struggling ever more desperately and hopelessly as they press upon him, shouting, expostulating, perhaps even at last fighting, and being forced backward step by step out of all speech or sign of his fellows, for evermore into the Unknown—into the dark, into that silence that has no end. . . .

THE END

NEW STOMACHS *for* OLD

By W. Alexander



He had to satisfy the craving of his new stomach, and he was enjoying a large meal at the Ritz, although he could not pay the bill.

COLONEL SEYMORE adjusted his long body more comfortably to the reclining chair. As he gazed at the glowing log in the fireplace, he made an effort to shake off his drowsiness and to concentrate his wandering attention on the doctor's words.

SEVERAL years ago the German Professor, Dr. Walter Finkler, amputated the heads of various insects and transplanted them on others. Strange to say, the insects with the transplanted heads, after the new ones had grown on, managed to get along the same as with their original heads. So the operation of exchanging your old stomach for a new one may, after all, not be an impossibility, but you may get the surprise of your life if you ever make such an exchange. At least one millionaire who bought himself a new stomach found this out rapidly in totally unexpected results, according to this story.

"Of course," Dr. Wentworth was saying, as he paced up and down the room behind the Colonel's chair. "You can take these pepsin preparations, but their action is temporary at best. As I have said before your only permanent relief will be to exchange stomachs with a strong young man."

"I have given the matter considerable thought," said the Colonel, "since you first suggested the idea to me. You assure me that it is not a dangerous operation and that you have in mind a suitable young man who is willing to make the exchange for a consideration."

"No, it is not at all a dangerous operation and the young man I mentioned will gladly make the exchange, providing the financial consideration is large enough. I would earnestly advise you, Colonel, to undergo this operation at once, for your stomach trouble is seriously affecting your disposition. From being the most amiable rich man of my acquaintance, you are rapidly becoming one of the most grouchy."

"How well I know it Doctor! No one realizes the change taking place in my disposition more than I do. I lose my temper over trifling incidents, speak sharply to some associate and then I could cut out my tongue, for having wounded a friend. With this infernal pain gnawing, gnawing in my stomach, I am in a vicious temper most of the time. Get your man, Doctor, the sooner the better. I will pay all hospital fees and give him ten thousand dollars for the exchange. This is on your positive assurance, however, that this stomach which he acquires from me, will give him no trouble. I wouldn't want my bitterest enemy to suffer as I have suffered on account of my stomach."

"Your offer is fair and I am sure my man will accept," said Dr. Wentworth. "You need have no fear about him. I will stake my professional reputation on it, that your stomach will function perfectly in his body, for there is nothing organically wrong with it. You have merely weakened it by your method of living. I trust you will change your habits when you have acquired this new stomach and take the out-of-doors exercises I have long and unsuccessfully advocated for you."

Colonel Seymore was one of those over-fastidious men who are caused almost physical pain when forced to come into contact with grime or filth. He was of an old New York family, and inherited a considerable fortune from his father which he had largely increased in Wall Street by his own efforts. He was still a bachelor at forty, though the admiring feminine glances that followed him when he strolled into the Ritz dining room, would lead one to believe that it was from choice rather than necessity.

A few days later as Dr. Wentworth and the Colonel passed along the corridor of the hospital, the doctor said: "When we pass the waiting room, Colonel, glance in and you will see the young man with whom you are about to exchange stomachs."

As they passed the door the Colonel glanced in with considerable curiosity. He saw a swarthy young man sitting stiffy in a chair. He was broad and strong-looking, with unkempt hair, three or four days growth of beard and clothes that looked none too clean.

"Good Lord, Doctor," said the Colonel, with a grimace, "I shudder to think of coming in contact with any part of that Italian's anatomy, let alone making it my own, but I suppose I should count myself lucky that you found some one willing to make such an exchange."

"You are indeed lucky," replied the doctor, smiling to himself over the Colonel's well-known fastidiousness. "That young man is as near a perfect specimen of the *genus homo* as it has ever been my privilege to examine. I am not introducing you two as it might later be a source of embarrassment to you. He does not know of your identity."

The operation was successfully performed and after seven days in the hospital, the doctor sent the Colonel to Florida to recuperate for a couple of weeks.

On his return to the city, feeling better than he had felt for years, he plunged at once into the details of perfecting a merger of considerable magnitude, on which he had been previously working.

There was only one fly in his ointment. He had a glorious appetite, but after finishing a hearty meal at his club or at the Ritz, he would leave the table with a vague unsatisfied feeling. As time passed this feeling was more and more pronounced until it became almost a hunger pain. He telephoned to Dr. Wentworth's office, intending to tell him of these symptoms, but the doctor was out of the city and was not expected to return for several weeks.

In connection with his merger plans, a subway was to be built, one outlet to be located in the lower part of the city in the tenement district. One evening on leaving his office he decided to inspect this district and see just what buildings would be affected.

He left his car and driver at the nearest corner, and started walking slowly around the block, making notes as to the size and value of the buildings. He had reached a point on the opposite side of the block from his car and was picking his way disgustedly along a sidewalk strewn with rotten cabbage leaves and other debris, and was in the act of jotting down the number of a building, when the door of a cheap coffee-house in front of which he was standing, swung open and his nostrils were assailed by the pungent odor of cooking food. And his stomach responded to the aroma—it leaped up, figuritively speaking, and cried for the food, as though it had just found a long lost friend.

The Colonel walked hastily away, but in a moment returned and passed and re-passed the door, the while feigning great interest in a building just across the street.

"I can't go into that dirty hole," muttered the Colonel, but the cry from his stomach had become an irresistible plea. At last he gave up the fight and pushing through the swinging doors found a seat on a high stool beside a swarthy Italian.

In response to the query of the waiter, he pushed his silk hat back on his head and pointing to a dish that had just been placed before the Italian, said he would have a dish of the same.

When the dish was placed before him, he attacked the unknown food ravenously, at the same time wrinkling his nose in disgust at the leavings of former patrons smeared over the rough counter.

But oh what food! Never at any of the banquets he had attended had he tasted such delectable food. He ate it to the last morsel and was only prevented from ordering another dish by the thought that his prolonged absence might cause his driver some uneasiness.

This trip to the tenement district was repeated on the three following evenings, on the pretext, to his driver, that further inspection of buildings was necessary. On the last evening he thought he caught a suspicious look on his man's face when he returned to the car. Then too, the patrons of the coffee-house seemed to look on him in a suspicious and unfriendly manner. He fancied he heard the words "stool" and "spotter" directed toward him. He knew his clothes made him conspicuous in the tough coffee-house, which was probably a bootlegging joint as well. He determined that in the future he would have his man drive him home from the office, where he could change quickly to an old hunting suit which hung in his closet. Clad in this garb, he could slip out without being seen by his servants and take a taxi from the stand on the next corner to the coffee-house where his old clothes would make him inconspicuous.

He followed this program daily for the next month, for he had now reached the point where his ordinary bill-of-fare at the club was tasteless and insipid. His stomach would not be satisfied with anything more refined than corned-beef and cabbage and the spicy Italian dishes, together with the sour wines——things he would be ashamed to order at his club, even if he could get them there. He gained twenty pounds in weight and his friends were continually congratulating him on his improved appearance and the return of his former joviality of manner.

Dropping into his bank one day, to clear up some points in connection with his merger, he said to the president: "Now about those options, Mr. Brown, I think the time is ripe to exercise them. I wish you would have the bank take them up, tomorrow."

"I am very sorry, Colonel Seymore," said Mr. Brown, "but this bank has decided to withdraw its tentative offer of financial backing in your merger scheme."

"Withdraw!" cried the Colonel, aghast. "Why you can't mean that, man. You virtually promised me the support of the bank and all of my plans have been built around that promise."

"Sorry, sir, but that is the decision of the Board of Directors."

"But why this change? What is your reason?"

"Well, to be frank with you," said the banker, "We have lately been hearing most disquieting rumors as to your personal habits. It was reported to us that you were seen, many times of late, in the slum part of the city, coming out or going into questionable joints. I took the trouble to verify these reports and myself saw you coming out of a tough coffee-house, dressed like a truck driver."

"But my dear sir," cried the Colonel, in distress, "the explanation is really quite simple. I—, I—, I —, that is, I—"

"I suppose you will try to tell me that you dropped in there for a bite to eat," said Brown, with a sneer,—"you with the reputation of being the most fastidious man in the city. I don't know what your game is, whether you are mixing up with the bootlegging crowd, or something else, but one thing is certain, if you put your merger through, it will not be with funds from this bank. You will have to use your own funds, as we cannot afford to be associated in any enterprise, with a man who is known to find his business or pleasure in questionable joints of the slums."

"You know full well," said the Colonel, with heat, "that my own funds are not available at this time, being tied up in that Cuban sugar deal and will not be released until the cane crop is in. That will be too late to consummate this merger."

He walked slowly out of the bank and getting into his car, ordered the driver to take him home. He settled himself in his library and studied over the plans for his merger, trying to decide just what should be done, now that the bank withdrew its support. But he was soon forced to give up any attempt to concentrate on the subject, as it was the time for his usual trip to the coffee-house and his stomach was clamoring for its favorite food. Deciding that it would be much easier to solve his problem after he had satisfied his stomach, he changed to his old suit and took a taxi to the coffee-house.

After a substantial meal, he paid his check and sauntered toward the door. Glancing through the window, he was horrified to see a group of his friends standing on the sidewalk. In the group he could see the pastor of his church, Rev. Mr. Simpson and Elder Smith, also Brown of the bank and Miss Evans, who served on the Charity Board with him.

"Now I am ruined socially," muttered the Colonel, "If this keeps on, my Italian stomach will land me in jail."

As he passed out of the door, he bowed to the group and raised his hat to Miss Evans. Their only greeting was a frozen stare. As he entered his taxi, he asked the driver if he knew what that group of people was doing in this neighborhood. The man informed him that these people were there in the interest of a Mission being opened a few doors from the coffee-house.

The following day the Colonel called on his attorney, Mr. Lewis, and explained to him the disruption of his merger plans, also telling him of the stomach operation and what it had led him into. "Of course," he concluded, "when Dr. Wentworth returns I will take him to the bank and have him explain to Mr. Brown about the operation and convince him that it was nothing more serious than an intense desire to satisfy this stomach that led me to that coffee-house in the slums. I have no doubt that Dr. Wentworth will be able to convince Mr. Brown, but the trouble is that these options may expire before the doctor returns."

"I am under the impression," said Mr. Lewis, "that the law gives us three days of grace, after the date of expiration, during which time we may renew the options. However, I am not sure on that point. Mr. Arthur, my partner, is an expert on law governing contracts and options. He is serving as judge in the Justice's Court, Number One, today, in the absence of the regular judge. We will step over to the Courthouse and speak to him there between cases.

When they entered the court, a trial was evidently in progress, so they found seats at the back of the room to await an opportunity to speak to Mr. Arthur.

The case on trial was one for larceny; a young man was accused of enjoying a large meal at the Ritz, and then refusing to pay for the same, claiming to have no funds.

The Colonel was bored with the proceedings and depressed by the odor of the room. He took the morning paper from his pocket and studied the stock quotations. Presently his attention wandered to the case on trial again and he heard the judge say: "Young man, what have you to say for yourself before I pass judgment?"

"Dees man tella true, Judge. Me, Tony Moreno, eata one beeg meal, have no da mun. Dees stomach I getta from reech mans, no will eata da speeget, maka me spend mucha da mun. Now no gotta da mun."

"What are you trying to tell this court about a stomach that you got from a rich man?" the judge, questioned with a frown.

"Just a minute, Your Honor," said the Colonel, as he got to his feet and walked forward. "This man is telling the truth. He did get his present stomach from a rich man and I am that man. I gather from what he has said that the stomach he acquired from me has led him into as much trouble as his stomach caused me. I have come to the con-

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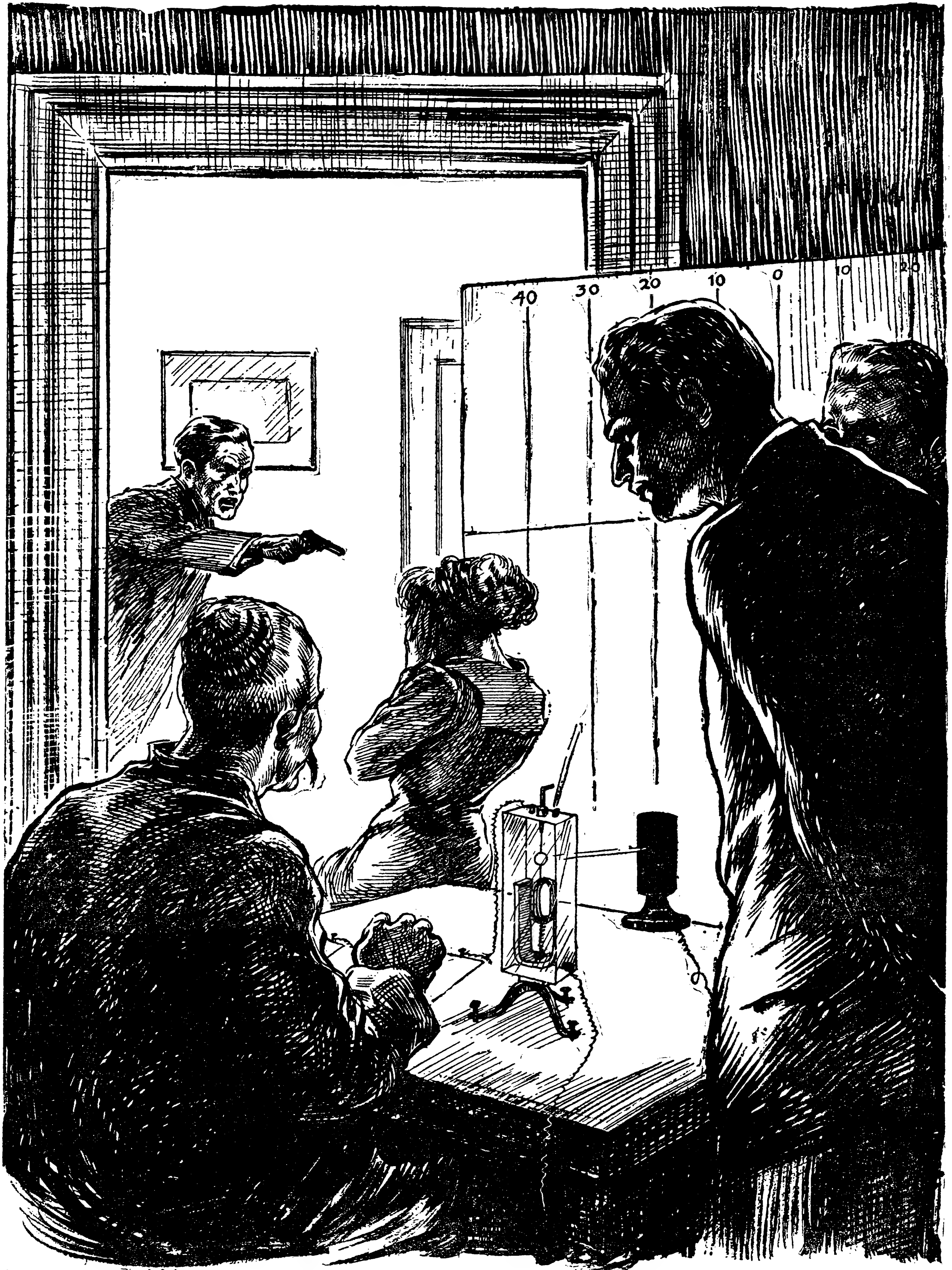
The ELEVENTH HOUR

By Edwin Balmer & William B. MacHarg

Authors of "The Man Higher Up"



It was a reproduction of the scene of the murder in the billiard room of the Newberry house. The Chinaman saw the light on the screen and knew that it was betraying him.

It was the third Sunday in March. A roaring storm of mingled rain and snow, driven by a riotous wind—wild even for the Great Lakes in winter—had surged through the streets of Chicago all day; a little after ten o'clock at night the temperature fell rapidly and the rain and snow changed suddenly to sleet. At twenty minutes past the hour, the slush that filled the streets began to freeze. Mr. Luther Trant, hastening on foot back to his rooms at his club, observed that the soft mess underfoot had become coated with tough, rubbery ice, through which the heels of his shoes crunched at every step while his toes left almost no mark.

Trant had been taking the day "off," away from both his office and his club; but fifteen minutes before, he had called up the club for the first time that day and had learned that a woman had been inquiring for him at frequent intervals during the day over the telephone, and that a special delivery letter which she had sent had been awaiting him since six o'clock. The psychologist was therefore hastening homeward, suddenly stricken with a sense of guilt and dereliction.

As he hurried down Michigan Avenue, he was considering the wonderful change in his affairs that had taken place so quickly. Six months ago he had been a callow assistant in a psychological laboratory. The very professor whom he had served had smiled when he had declared his belief in his power to apply the necromancy of the new psychology to the detection of crime. But the delicate instruments of the laboratory—the chronoscopes, kymographs, plethysmographs, which made visible and recorded unerringly, unfalteringly, the most secret emotions of the heart and the hidden workings of the brain; the experimental investigations of Freud and Jung, of the German and French scientists, of Münsterberg and others in America—had fired him with a belief in them and in himself. In the face of misunderstanding and derision he had tried to trace the criminal, not by the world-old method of the marks the evil-doer had left on *things*, but by the evidences which the crime had left on the mind of the criminal himself. And so well had he succeeded that now not even a Sunday was free from appeal to him for help in trouble. As he entered the club, the doorman addressed him hurriedly:

ANOTHER of the scientific detective stories by the well-known authors, Edwin Balmer and William B. MacHarg. Herein Luther Trant makes a scientific excursion into our innermost psychology. Of the entire human race, no one is less easily ruffled than a Chinaman. He has nerves of steel and a will of similar quality. But nevertheless even such a constitution can betray itself if the correct scientific instruments are applied to it.

"She called again, Mr. Trant, at nine o'clock. She wanted to know if you had received the note, and said you were to have it as soon as you came in."

Trant took the letter—a plain, coarse envelope, with the red two-cent and the blue special delivery stamps stuck askew above an uneven line of great, unsteady characters. Within it, ten lines spread this wild appeal across the paper:

If Mr. Trant will do—for some one unknown to him—the greatest possible service—to save perhaps a life—a life! I beg him to come to—Ashland Avenue between seven and nine o'clock to-night! Eleven! For God's sake come—between seven and nine! Later will be too late. Eleven! I tell you it may be worse than useless to come after eleven! So for God's sake—if you are human—help me! You will be expected.

W. Newberry.

The psychologist glanced at his watch. It was already twenty-five minutes to eleven! And then he paused a full minute to scrutinize the handwriting, a shade of perplexity on his face.

The hand—identical in note and envelope—was that of a man!

"You're sure it was a woman's voice on the 'phone?" he asked, quickly.

"Yes, sir, a lady."

Trant picked up the telephone on the desk; "Halloo! Is this the West End Police Station? This is Mr. Trant. Can you send a plain-clothes man and a patrolman at once to—Ashland Avenue? No; I don't know what the trouble is, but I understand it is a matter of life and death; I want to have help at hand if I need it. You are sending Detective Siler? Because he knows the house? Oh, there has been trouble there before? I see. Tell him to hurry. I will try and get there myself before eleven."

Trant hurried into a waiting taxicab. The streets were all but empty, and into the stiffening ice the chains on the tires of the driving wheels bit sharply; so it still lacked ten minutes of the hour when he jumped out at his destination. The vacant street, and the one dim light on the first floor of the house told him the police had not yet arrived.

The porticoed front and the battered fountain, which rose obscurely from the ice-crusted sod of the narrow lawn, showed that the structure had formerly been a pretentious one. In the rear, as well as Trant could see in the indistinct glare of the street lamps, there was a long one-storied addition.

As the psychologist rang the bell and was admitted, he saw at once that he had not been mistaken in believing that the cab which had passed his motor only an instant before had come from the same house; for the mild-eyed, white-haired little man who opened the door almost before the bell had stopped ringing had not yet taken off his overcoat. Behind him, in the dim light of a shaded lamp, an equally placid, white-haired little woman was laying off her wraps; and their gentle faces were so completely at variance with the wild terror of the note which Trant now held between his fingers in his pocket, that he hesitated before he asked his question:

"Is W. Newberry here?"

"I am the Reverend Wesley Newberry," the old man answered. "I am no longer in the active service of the Lord; but in case of immediate necessity, if I can be of use——"

"No, no!" Trant checked him. "I have not come to ask your services as a minister, Mr. Newberry. To-night when I returned to my club at half past ten, I was informed that a woman—apparently in great anxiety—had been trying to get me all day on the telephone, and had finally referred me to this special delivery letter which was delivered at six o'clock." Trant extended it to the staring little minister. "Telephone calls and note may have been a hoax; but— In Heaven's name! What is the matter, Mr. Newberry?"

The two old people, in great amazement, had taken the note. But the moment she glanced at it, the little woman dropped, shaking and pale, into the nearest chair. The little man had lost his placidity and was shuddering in uncontrolled fear.

"This note is not from me Mr.—Mr. Trant," he said, staring at the letter in terror, "but it is, I must not deceive myself, undoubtedly from our son Walter. This writing, though broken beyond anything I have seen from him in his worst dissipations, is undoubtedly his. Yet Walter is not here, Mr. Trant! I mean—I mean, he should not be here! There have been reasons—we have not seen or heard of Walter for two months. He cannot be here now—surely he cannot be here now, unless—unless— My wife and I went to a friend's this evening; this is as though the writer had known we were going out! We left at half past six and have only just returned. Oh, it is impossible that Walter could have come here!" The livid terror grew stronger on his rosy, simple face as he turned to his wife. "We have not seen Adele, Martha, since we came in! And this gentleman tells us that a woman in great trouble was sending for him. If Walter has been here— But come—let us look together!"

He had turned, with no further word of explanation, and pattered excitedly to the stairs, followed by his wife and Trant.

"Adele! Adele!" the old man cried anxiously, knocking at the door nearest the head of the stairs; and when he received no answer, he pushed the door open. The room was empty. "There is something very wrong here, Mr. Trant! This is the bedroom of my daughter-in-law, Walter's wife. She should be here at this hour! My son—we could never control him, Mr. Trant, he was always unprincipled—threatened Adele's life two months ago because she—she found it impossible to live longer with him. It was terrible! We had to call the police. We forbade Walter the house. So if she called on you because he was threatening her again, and he returned here to-night to carry out his threat, then Adele——!"

"But why should *he* have written me that note?" Trant asked. "However—there is no time to lose, Mr. Newberry. We must search the entire house at once and make sure, at least, that Mrs. Walter Newberry is not in some other part of it!"

"You are right—quite right!" answered the little man as he ran rapidly from door to door, throwing the rooms open to the impatient scrutiny of the psychologist. While they were still engaged in this search upon the upper floor, a tall clock on the landing of the stairs struck eleven!

And scarcely had the last deep stroke of the hour ceased to resound in the hall, when suddenly, sharply, and without other warning, a revolver shot rang out, followed so swiftly by three others that the four reports sounded almost as one through the silent house! The little woman screamed and seized her husband's arm. He, in turn, seized Trant's. They stood thus for an instant, for though the shots were plainly inside the house, the echoes made it impossible to locate them exactly. But almost immediately a fifth shot, seeming louder and more distinct in its separateness, broke the stillness.

"It is in the billiard room!" the wife shrieked, with a woman's quicker location of indoor sounds.

The little minister ran to seize the lamp, as Trant turned toward the rear of the house. Mrs. Newberry started with them; but at that instant the doorbell rang furiously and she turned back perfunctorily to answer it. The psychologist pushed her husband on, and taking the lamp from the elder man's shaking hand, he followed Newberry into the one-story addition which formed the back part of the house. The L-shaped passage opened at one end, apparently upon a side porch. Newberry hurried down the other branch of the passage past a door which was plainly that of a kitchen, came to another farther down the passage, tried it, and recoiled in fresh bewilderment to find it locked.

"It is never locked, never!" he cried.

"We must break it down then!" Trant drew the little man aside and bracing himself against the opposite wall, threw his shoulder against the door once, twice, and a third time, without effect. Then a uniformed patrolman, and another in plain clothes, running after them with Mrs. Newberry, added their weight to Trant's, and the door crashed open.

A blast of air from the outside storm instantly blew out both the lamp in Trant's hand and another which had been burning in the room. Siler and the patrolman, swearing softly, felt for matches. The psychologist ran to the window, which was open and gazed intently into the night. After a moment, he closed it and turned to look about the room in the light of the lamp which Siler had succeeded in lighting.

This room which Mrs. Newberry had called the billiard room, he saw was really a storeroom, littered with an accumulation of old rubbish and furniture, the arrangement of which showed plainly that the room had recently been fitted for occupancy. That the occupant had taken care to conceal himself, heavy sheets of brown paper pasted over the panes of all the windows—including that which Trant had found open—testified; that the occupant had been well tended, a full tray of food practically untouched and the stubs of at least a hundred cigarettes flung in the fireplace made plain. These things Trant appreciated only after the first swift glance, which showed him a huddled figure with its head under a musty lounge that stood farthest from the window. The figure was a man's, and the mother's shuddering cry of recognition identified him as Walter Newberry.

Trant knelt beside the officers working over the body; the blood had been flowing from a bullet wound in the temple, but it had ceased to flow. A small, silver-mounted automatic revolver, obviously a woman's weapon, lay on the floor, with the shells which had been ejected as it was fired. The psychologist rose.

"We have come too late," he said, simply, to the father. "It was necessary, as he foresaw, to get here before eleven, if we were to help him. He is dead. And now—" he checked himself, as the little woman clutched her husband and buried her face in his sleeve, and the little man stared up at him with a chalky face—"it will be better for you to wait somewhere else till we are through here."

"In the name of mercy, Mr. Trant," Newberry cried, miserably, as the psychologist picked up a lamp and lighted the two old people into the hall, "what is this terrible thing that has happened here? What is it—oh, what is it, Mr. Trant? And where—where is Adele?"

"I am here, father; I am here!" a new voice broke clearly and calmly through the confusion, and the light of Trant's lamp fell on a slender girl advancing down the hallway. "And you," she said as composedly to the psychologist, in spite of the pallor which increased as she met his eyes, "are Mr. Trant—and you came too late!"

"You are Mrs. Walter Newberry?" Trant returned. "You called me up this morning and this afternoon?"

"Yes," she said. "And he is dead! You came too late."

She did not see the quick glance Trant gave to assure himself that she had spoken before she could have seen the body from her place in the hall.

"Yes, dear father and dear mother!" she began compassionately. "Walter came back—" she broke off suddenly, her eyes staring over Trant's shoulder at Siler, who had come to the doorway. "You—you brought the police, Mr. Trant! I—I thought you had nothing to do with the police!"

"Never mind that," the plain-clothes man checked Trant's answer. "You were saying your husband came home, Mrs. Newberry?"

"Then—but that is all I know; I know nothing whatever about it."

"How did you get your shoes and skirt wet, Mrs. Newberry?" The plain-clothes man pointed at her draggled garments.

"I—I heard the shots! That was all. I ran to the neighbors' for help; but I could get no one."

"Then you'll have a chance to make your statement later," Siler answered in a business-like tone. "Just now you'd better look after your father and mother."

He took the lamp from Trant and held it to light them down the hall, then turned swiftly to the patrolman. "She is going upstairs with them; watch the front stairs and see that she does not go out. If she comes down the back stairs, we can see her."

As the patrolman went out, the plain-clothes man turned back into the room, leaving the door ajar so that the rear stairs were visible. "These husband-and-wife cases, Mr. Trant!" he said, easily. "The man thinks the woman will stand everything; and she does—till he does one thing too much. Then, all of a sudden, she lets him have it!"

"Don't you think it's a bit premature," the psychologist suggested, "to assume that she killed him?"

"Didn't you see how she shut up when she saw me?" Siler's eyes met Trant's with a flash of opposition. "That was because she recognized me. I've been here before. It's a cinch! Regular minister's son, he was. The old man's a missionary, you know; spent his life till two years ago trying to turn Chinese heathen into Christians. And this Walter—our station blotter'd be black with his doings; only, ever since he made China too hot to hold him and the old man brought him back here, everything's been hushed up on the old man's account. But I happen to have been here before; and all winter I've known there'd be a killing if he ever came back. I tell you it was a relief to me to see it was him on the floor when that door went down! There are no powder marks, you see"—the officer pointed to the wound in the head of the form beside the lounge. "He could not have shot himself. He was shot from farther off than he could reach. Besides, it's on the left side."

"Yes; I see," Trant replied.

"And that little automatic gun," the officer stopped and picked up the pistol that lay on the floor beside the body, "is hers. I saw it the last time I was called in here."

"But how could he have known—if she shot him—that she was going to kill him just at eleven?" Trant objected pulling from his pocket the note which old Mr. Newberry had returned to him and handing it to Siler. "He sent that to me; at least, the father says it is in his handwriting."

"You mean," Siler's eyes rose slowly from the paper, "that she must have told him what she was going to do—premeditated murder?"

"I mean that the first fact which we have—and which certainly seems to me wholly incompatible with anything which you have suggested so far—is that Walter Newberry foresaw his own death and set the hour of its accomplishment; and that his wife—it is plain, at least, to me—when she telephoned so often for me to-day, was trying to help him to escape from it. Now what are the other facts?" Trant went on rapidly. "I distinctly heard five shots—four together and then, after a second or so, one. You heard five?"

"Yes."

"And five shots," the psychologist's quick glance had been taking in the finer details of the room, "are accounted for by the bullet holes—one on the woodwork of the window I found open; one on the plaster there to the side; one under the molding there, four feet to the right; and one more, in the plaster almost as far to the left. The one that killed him makes five."

"Exactly!" Siler followed Trant's indication, "the fifth in his head! The first four went off in their struggle and then she got away and, with the fifth, shot him."

"But the shells," Trant continued. "That sort of revolver ejects the shells as they are fired and I see only four. Where is the fifth?"

"You're trying to fog this thing all up, Mr. Trant!"

"No; I'm trying to clear it. How could anyone have left the room after the firing of the last shot? No one could have gone through the door and not been seen by us in the hall; besides, the door was bolted on the inside." Trant pointed to the two bolts. "No one could have left except by the window which was open when we came in. You remember I went at once to it and looked out. I saw nothing. The window is barred, but that might not prevent escape through it."

Trant recrossed the room swiftly and threw the window open, intently reëxamining it. On the outside it was barred with a heavy grating, but he saw that the key to the grating was in the lock.

"Try your flash-light," he said to the plain-clothes man; Siler shot its rays against the grating, and continued: "Look at the ice cracked from it. It must have been swung open. He must have gone out this way!"

The plain-clothes man had squeezed past Trant, as the grating swung back, and flash in hand had let himself easily down to the ice-covered walk below the window, and was holding his light, shielded, just above the ground. "It was she," he cried, triumphantly. "The woman, as I told you! Look at her marks here!" He showed the double, sharp little semicircles of a woman's high heels cut into the ice; and, as Trant dropped down beside him, the police detective followed the sharp little heel marks to the side door of the house where they turned and led into the kitchen entry.

"Premature, was I—eh?" Siler triumphed, laconically. "We are used to these cases, Mr. Trant; we know what to expect in 'em."

Trant stood for an instant studying the sheet of ice. In this sheltered spot, freezing had not progressed so fast as in the open streets. Here, as an hour before on Michigan Avenue, he saw that his heels and those of the police officer cut through the crust at every step, while their toes left no mark. But except for the marks they themselves had made and the crescent stamp of the woman's high heels leading in sharp, clear outline from the window to the side steps of the house, there were no other imprints. Then he followed the detective in by the side door.

In the passage they met the patrolman. "She came downstairs just now," said that officer, "and went in here."

Siler laid his hand on the door of the little sitting room the patrolman indicated, but turned to speak a terse command to the man over his shoulder: "Go back to that room and see that things are kept as they are. Look for the fifth shell. We got four; find the other!"

Then, with a warning glance at Trant, he pushed the door open.

The girl faced the two calmly as they entered; but the whiteness of her lips showed that she was reaching the end of her control.

"You've had a little while to think this over, Mrs. Newberry," the plain-clothes man said, not unkindly, "and I guess you've seen it's best to make a clean breast of it. Mr. Walter Newberry has been in that room quite a while—the room shows it—though his father and mother seem not to have known about it."

"He—" she hesitated, then answered suddenly and collectedly—"he had been there six days."

"You started to tell us about it," Trant helped her. "You said 'Walter came home.' What brought him here? Did he come to see you?"

"No." The girl's pale cheeks suddenly burned blood red and then went white again, as she made her decision. "It was fear—deadly fear that drove him here; but I do not know of what."

"You are going to tell us all you know, are you not, Mrs. Newberry?" the psychologist urged, quietly; "how he came here and how both he and you could so foresee his death that you summoned me as you did!"

"Yes; yes—I will tell you," the girl returned, resolutely. "Six nights ago, Monday night, Mr. Trant, Walter came here. He waked me by throwing pieces of ice and frozen sod against my window. I went down and talked to him through the closed door—the side door here. I was afraid at first to let him in, in spite of his promises not to hurt me. He told me his very life was in danger, and he had no other place to go; he must hide here—hide; and I must not let anyone—not even mother or father—know he had come back; that I was the only one he could trust! So—he was my husband—I let him in. He ran at once into the old billiard room—the storeroom there—and tried the locks of the door and the window gratings, and then threw himself all sweating cold on the lounge, and went to sleep in a stupor. In the morning when he woke up, I saw it wasn't whisky or opium, but it was fear—fear—fear, such as I'd never seen before. He rolled off the couch and half hid under it till I'd pasted brown paper over the window panes—there were no curtains. But he wouldn't tell me what he was afraid of.

"As the days went by, he couldn't sleep at all; he walked the floor all the time and he smoked continually, so that nearly every day I had to slip out and get him cigarettes. He got more and more afraid of every noise outside and of every little sound within; and it made him so much worse when I told him I must tell some one else—at least his mother—that I didn't dare. He said if I did he would be killed. He was always worse at eleven o'clock at night; and he dreaded especially eleven o'clock Sunday night—though I couldn't find out why!

"I gave him my pistol—the one you saw on the floor in there. That was Friday; and he had been getting worse and worse all the time. Eleven o'clock every night I managed to be with him; and no one found us out. I never thought that he might use the pistol to kill himself until this morning; but when I came to him this morning he was talking about it. 'I shan't shoot myself!' I heard him saying over and over again, as I stood outside. 'They can't make me shoot myself! I shan't! I shan't'—over and over, like that. And when he had let me in and I saw him, then I knew—I knew he meant to do it! He asked me if it wasn't Sunday; and went whiter when I told him it was! So then I told him he had to trust some one now, this couldn't go on, and I spoke to him about Mr. Trant. He said he'd try him and he wrote the letter I mailed you—special delivery—so you could come when his father and mother were out—but he never once let go my pistol; he was wild—wild with fear. Every time I could get away to the telephone, I tried to get Mr. Trant; and the last time I got back—it was awful! It was hardly ten, but he was walking up and down with my pistol in his hand, whispering strange things over and over to himself: 'No one can make me do it! No one can make me do it—even when it's eleven—even when it's eleven!'—and staring—staring at his watch which he'd taken out and laid on the table. I knew I *must* get some one before eleven—and at last I was running next door for help—for anyone—for anything—when—when I heard the shots—I heard the shots!"

She sank forward and buried her face in her hands, rent by tearless sobs. Her fingers, white from the pressure, made long marks on her cheeks, showing livid even in the pallor of her face. But Siler laid his hand upon her arm, sternly.

"Steady, steady, Mrs. Newberry!" the plain clothes man warned. "You cannot do that now! You say you were with your husband a moment before the shooting but you were not in the room when he was killed?"

"Yes; yes!" the woman cried.

"You went out the door the last time?"

"The door? Yes; yes; of course the door. Why not the door?"

"Because, Mrs. Newberry," the detective replied, impressively, "just at, or a moment after, the time of the shooting, a woman left that room by the window—unlocked the grating and went out the window. We have seen her marks. And you were that woman, Mrs. Newberry!"

The girl gasped and her eyes wavered to Trant; but she recovered herself quickly.

"Of course! Why, of course!" she cried. "The last time I did go out of the window! It was to get the neighbors—didn't I tell you? So I went out the window!"

"Yes; we know you went out the window, Mrs. Newberry," Siler responded, mercilessly. "But we know, too, you did not even start for the neighbors. We have traced your tracks on the ice straight to the side door and into the house! Now, Mrs. Newberry, you've tried to make us believe that your husband killed himself. But that won't do! Isn't it a little too strange, if you left by the window while your husband was still alive, that he let the window stay open and the grating unlocked? Yes; it's altogether too strange. You left him dead; and what we want to know—and I'm asking you straight out—is how you did it?"

"How I did it?" the girl repeated, mechanically; then with sharp agony and starting eyes: "How *I* did it! Oh, no, no, I did not do it! I was there—I have not told all the truth! But when I saw you," her horrified gaze rested on Siler, "and remembered you had been here before when he—he threatened me, my only thought was to hide, for his sake and for his parents', that he had tried to carry out his threat. For before he killed himself, he tried to kill me! That's how he fired those first four shots. He tried to kill me first!"

"Well, we're getting nearer to it," Siler approved.

"Yes; now I have told you all!" the girl cried. "Oh, I have now—I have! The last time he let me in, it was almost eleven—eleven! He had my pistol in his hand, waiting! And at last he cried out it was eleven; and he raised the pistol and shot straight at me—with the face—the face of a demon mad with fear. I fell on my knees before him, just as he shot at me again and again—aiming straight, not at my eyes, but at my hair; and he shot again! But again he missed me; and his face—his face was so terrible that—that I covered my own face as he aimed at me again, staring always at my hair. And that time, when he shot, I heard him fall and saw—saw that he had shot himself and he was dead!

"Then I heard your footsteps coming to the door; and I saw for the first time that Walter had opened the window before I came in. And—all without thinking of anything except that if I was found there everybody would know he'd tried to kill me—I took up the key to the grating from the table where he had laid it, and went out!"

"I can't force you to confess, if you will not, Mrs. Newberry," Siler said, meaningly, "though no jury, after they learned how he had threatened you, would convict you if you pleaded self-defense. We know he didn't kill himself; for he couldn't have fired that shot! The case is complete, I think," the detective shot a glance at Trant, "unless Mr. Trant wants to ask you something more."

"I do!" Trant spoke for the first time. "I want to ask Mrs. Newberry—since she did not actually see her husband fire the last shot that killed him—whether she was directly facing him as she knelt. It is most essential to know whether or not her head was turned to one side."

"Why, what do you mean, Mr. Trant?"

"Suppose he might have shot himself before her, as she says—what's the difference whether she heard him with her head straight or her head turned?" the police detective demanded, sneeringly.

"A fundamental difference in this case, Siler," Trant replied, "if taken in connection with that other most important factor of all—that Walter Newberry foretold the hour of his own death. But answer me, Mrs. Newberry—if you can be certain."

"I—certainly—I can never forget—I was facing him," the girl answered.

"That is very important!" The psychologist took a rapid turn or two up and down the room. "Now you told us that your husband talked to himself continuously, repeating over and over again such sentences as 'No one can make me do it!' Can you remember any others?"

"I couldn't make out anything else, Mr. Trant," the girl replied after thinking an instant. "He seemed to have hallucinations so much of the time."

"Hallucinations?"

"Yes; he seemed to think I was singing to him—as I used to sing to him, you know, when we were first married—and he would catch hold of me and say 'Don't—don't—don't sing!' Or at other times he would tell me to sing low—sing low!"

"Anything else?"

"Nothing else even so sensible as that," the girl responded. "Many things he said made me think he had lost his mind. He would often stare at me in an absorbed way, looking over me from head to foot, and say, 'Look here; if anyone asks you—anyone at all—whether your mother had large or small feet, say small—never admit she had large feet, or you'll never get in.'"

"What?" The psychologist stood for several moments in deep thought. "What! He said that?"

"A dozen times at least, Mr. Trant," the girl replied, staring at him, startled.

"This is extraordinary!" Trant strode up and down. "Nobody could have hoped for so fortunate a clew. We knew that Walter Newberry foresaw his own death; now we actually get from him himself, the key—possibly the complete explanation of his danger."

"Explanation!" shouted the police detective. "I've heard no explanation! You're throwing an impressive bluff, Mr. Trant; but I've heard nothing yet to make me doubt that Newberry met his death at the hands of his wife; and I arrest her for his murder!"

"I can't prevent your arresting Mrs. Newberry." Trant turned to look at the police officer. "But I can tell you—if you care to hear it—how Walter Newberry died! He was not shot by his wife; he did not die by his own hand, as she believes and has told you. The fifth shot—you have not found the fifth shell yet, Siler; and you will not find it!—for it was not fired either by Walter Newberry or his wife. As she knelt, blinding her eyes as she faced her husband, Mrs. Newberry could not know whether the fifth shot sounded in front or behind her. If her head was not turned to one side, as she says it was not, then—and this is a simple psychological fact, Siler—it would be impossible for her to distinguish between sounds directly ahead and directly behind. It was not at her—at her hair—that her husband fired the four shots whose empty shells we found, but over her head at the window directly behind her. And it was through this just opened window that the fifth shot came and killed him—the shot at eleven o'clock—which he had foreseen and dreaded!"

"You must think I'm easy, Mr. Trant," said the police officer. "You can't clear her by dragging into this business some third person who never existed, and who left no traces——"

"Traces!" Trant echoed. "If you mean marks on the window sill and the floor, I cannot show you any. But the murderer did leave, of course, one trace which in the end will probably prove final, even to you, Siler. The shell of the fifth shot is missing because he carried it away in his revolver. But the bullet—only by a most remarkable coincidence, Siler, will you find the bullet which killed young Newberry the same as the four shot from his wife's automatic revolver!"

"But the ice—the ice under the window!" shouted the detective. "There were no heel marks but his wife's and there would have been others if anyone had stood outside the window to fire through it."

"When you have reached the point, Siler," said Trant, more quietly, "where you can think of some class of men who would have left no heel marks, but who could have produced the effect on young Newberry's mind which his wife has described, you will have gone far toward the discovery of the real murderer of Walter Newberry. In the meantime, I have clews enough; and I hope to find help to enable me to bring the murderer to justice. I will ask you, Mrs. Newberry," he glanced toward the girl, "to let me have a photograph of your husband, or—" he hesitated, unable to tell from her manner whether she had heard him—"I will stop on my way out to ask for his photograph from his father."

He glanced once more from the detective to the pale girl who, since she received notice of her arrest, had stood as though cut from marble. Then he left them.

The next morning's papers, which carried startling headlines of the murder of Walter Newberry, brought Police Detective Siler a feeling of satisfaction with his own work. The newspaper accounts were elaborations of his own theory of an attack by the missionary's dissipated son on his wife and her shooting him in self-defense.

Even the discovery on the second morning that the bullet which was removed from young Newberry's body was of 38 caliber and, as Trant had predicted, not at all similar to the steel-jacketted 32-caliber bullets shot by Mrs. Newberry's automatic pistol, did not disturb the police officer's self-confidence. And when, on the day following, Siler received orders to report, at an hour when he was not ordinarily on duty, at the West End police station, he pushed open the door of the captain's room, to which the sharp nod of the desk sergeant had directed him, with an air of confident importance.

The room had three occupants—the huge figure of Division Inspector of Police Walker, a slight, dark man unknown to Siler, and Luther Trant at the end of the room busy arranging a somewhat complicated apparatus.

Trant, with a short nod of greeting, at once called Siler to his aid.

With the detective's half-suspicious, half-respectful assistance, the psychologist stretched across the end of the room a white sheet about ten feet long, three feet high, and divided into ten rectangles by nine vertical lines. Opposite this, and upon a table about ten feet away, he set up a small electrical contrivance consisting of two magnets and wire coils supporting a small, round mirror about an inch in diameter and so delicately suspended that it turned at the slightest current passing through the coils below it. In front of this little mirror Trant placed a shaded electric lamp in such a position that its light was reflected from the mirror upon the sheet at the end of the room. Then he arranged a carbon plate and a zinc plate on the edge of the table; set a single cell battery under the table; connected the battery with the coils controlling the mirror, and connected them also with the zinc and carbon plates.

When his preparations were complete, Trant rested his hands lightly on the plates upon the table; and as he did so a slight and in fact imperceptible current passed through him from the battery; but it was enough to move the light spot reflected upon the screen.

"This apparatus," the psychologist said, as he saw even Walker stare at this result, "is the newest electric psychometer—or 'the soul machine,' as it is already becoming popularly known. It is probably the most delicate and efficient instrument contrived for detecting and registering human emotions—such as anxiety, fear, and the sense of guilt. Like the galvanometer which you saw me use to catch Caylis, the Bronson murderer, in the first case where I worked with the police, Inspector Walker,"—the psychologist turned to his tall friend—"this psychometer—which is really an improved and much more spectacular galvanometer—is already in use by physicians to get the truth from patients when they don't want to tell it. No man can control the automatic reflexes which this apparatus was particularly designed to register, when he is examined with his hands merely resting upon these two plates!

"As you see," he placed his hands in the test position again, "these are arranged so that the very slight current passing through my arms, so slight that I cannot feel it at all, moves that mirror and swings the reflected light upon the screen according to the amount of current coming through me. As you see now, the light stays almost steady in the center of the screen, because the amount of current coming through me is very slight. I am not under any stress or emotion of any sort. But if I were confronted suddenly with an object to arouse fear—if, for instance, it reminded me of a crime I was trying to conceal—I might be able to control every other evidence of my fright, but I could not control the involuntary sweating of my glands and the automatic changes in the blood pressure which allow the electric current to flow more freely through me. The light would then register immediately the amount of my emotion by the distance it swung along the screen. But I will give you a much more perfect demonstration of the instrument during the next half hour while I am making the test that I have planned to determine the murderer of Walter Newberry."

"You mean," cried Siler, "you are going to test the woman?"

"I might have thought it necessary to test Mrs. Newberry," Trant answered, "if the evidence at the house of the presence of a third person who was the murderer had not been so plain as to make any test of her unnecessary."

"Then you—you still stick to that?"

"Thanks to Mr. Ferris, who is a special agent of the United States Government," Trant motioned to the slight, dark man who was the fourth member of the party, "I have been able to fix upon four men, one of whom, I feel absolutely certain, shot and killed young Newberry through the window of the billiard room that night. Inspector Walker has had all four arrested and brought here. Mr. Ferris' experience and thorough knowledge enabled me to lay my hands on them much more easily than I had hoped, though I was able to go to him with information which would have made their detection almost certain sooner or later."

"You mean information you got at the house?" asked Siler, somewhat bewildered.

"Just so, Siler; and it was as much at your disposal as mine," Trant replied. "It seemed to mean nothing to you that Walter Newberry knew the hour at which he was to die—which made it seem more like an execution than a murder; or that in his terror he raved that 'he would not do it, that they could not make him do it,' plainly meaning commit suicide. Perhaps you don't know that it is an Oriental custom, under certain conditions, to allow a man who has been sentenced to death the alternative of carrying out the decree upon himself before a certain day and hour that has been decided upon! But certainly his ravings, as told us by his wife, ought to have given you a clew, if you had heard only that sentence which she believed an injunction not to sing loudly, but which was in reality a name—Sing Lo!"

"Then—it was a Chinaman!" cried Siler.

"It could hardly have been any other sort of man, Siler. For there is no other to whom it could be commended as a matter of such vital importance whether his mother had small feet or large, as was shown in the other sentence Mrs. Newberry repeated to us. It was that sentence that sent me to Mr. Ferris."

"I see—I see!" exclaimed the crestfallen detective. "But if it was a Chinaman you'll never get the truth out of him."

"I know, Siler," Trant answered, "that it is absolutely hopeless to expect a confession from a Chinaman; they are so accustomed to control the obvious signs of fear, guilt, the slightest trace or hint of emotion, even under the most rigid examination, that it has come to be regarded as a characteristic of the race. But the new psychology does not deal with those obvious signs; it deals with the involuntary reactions in the blood and glands which are common to all men alike—even to Chinamen! We have in here," the psychologist glanced toward an inner room, "the four Chinamen—Wong Bo, Billy Lee, Sing Lo, and Sin Chung Ming.

"My first test is to see which of them—if any—was acquainted with Walter Newberry; and next who, if any of them, knew where he lived. For this purpose I have brought here Newberry's photograph and a view of his father's house, which I had taken yesterday." He stooped to one of his suit cases, and took out first a dozen photographs of young men, among them Newberry's, and about twenty views of different houses, among which was the Newberry house. "If you are ready, Inspector, I will go ahead with the test."

The Inspector threw open the door of the inner room, showing the four Celestials in a group, and summoned first Wong Bo, who spoke English.

Trant, pushing a chair to the table, ordered the Oriental to sit down and place his hands upon the plates at the table's edge before him. The Chinaman obeyed passively, as if expecting some sort of torture. Immediately the light moved to the center of the screen, where it had moved when Trant was touching the plates, then kept on toward the next line beyond. But as Wong Bo's first suspicious excitement—which the movement of the light betrayed—subsided, the light returned to the center of the screen.

"You know why you have been brought here, Wong Bo?" Trant demanded.

"No," the Chinaman answered, shortly, the light moving six inches as he did so.

"You know no reason at all why you should be brought here?"

"No," the Chinaman answered, calmly again, while the light moved about six inches. Trant waited till it returned to its normal position in the center of the screen.

"Do you know an American named Paul Tobin, Wong Bo?"

"No," the Chinaman answered. This time the light remained stationary.

"Nor one named Ralph Murray?"

"No," Still the light stayed stationary.

"Hugh Larkin, Wong Bo?"

"No," calmly again, and with the light quiet in the center of the screen.

"Walter Newberry?" the psychologist asked in precisely the same tone as he had put the preceding question.

"No," the Chinaman answered, laconically again; but before he answered and almost before the name was off Trant's lips, the light jumped quickly to one side across the screen, crossed the first division line and moved on toward the second and stayed there. It had moved over a foot! But the face of the Oriental was as quiet, patient, and impassive as before. The psychologist made no comment; but waited for the light slowly to return to its normal position. Then he took up his pile of portrait photographs.

"You say you do not know any of these men, Wong Bo," Trant said, quietly. "You may know them, but not by name, so I want you to look at these pictures." Trant showed him the first. "Do you know that man, Wong Bo?"

"No," the Chinaman answered, patiently. The light remained steady. Four more pictures of young men elicited the same answer and precisely the same effect. The sixth picture was the photograph of Walter Newberry.

"You know him?" Trant asked.

"No," Wong Bo answered with precisely the same patient impassiveness. Not a muscle of his face changed nor an eyelash quivered; but as soon as Trant had displayed this picture and the Chinaman's eyes fell upon it, the light on the screen again jumped a space and settled near the second line to the left!

Trant put aside the portraits and took up the pictures of the houses. He waited again till the light slowly resumed its central position on the screen.

"You have never gone to this house, Wong Bo?" He showed a large, stone mansion, not at all like the Newberry's.

"No," the Chinaman replied, impassive as ever. The light remained steady.

"Nor to this—or this—or this?" Trant showed three more with the same result. "Nor this?" He displayed now a rear view of the Newberry house.

The light swung swiftly to one side and stood trembling, again a foot and a half to the left of its normal position as the Chinaman replied quietly, "No."

"That will do for the present." Trant dismissed Wong Bo. "Send him back to his cell, away from the others. We will try the rest—in turn!"

Rapidly he examined Billy Lee and Sing Lo. Each man made precisely the same denials and in the same manner as Wong Bo, and on each case the result was the same, the light was steady, until Walter Newberry's name was mentioned and his picture shown. Then it swung wide. The picture of the house, however, had no effect on them.

"Bring in Sin Chung Ming!" the psychologist commanded. Trant set the yellow hands over the plates and started his questions in the same quiet tone as before. For the first two questions the light moved three times, as it had done with the others—and as even Ferris and Siler now seemed to be expecting it to move—only this time it seemed even to the police officers to swing a little wider. And at Walter Newberry's name, for the first time in any of the tests, it crossed the second dividing line at the first impulse, moved toward the third and stayed there.

Even Siler now waited with bated breath, as Trant took up the pile of pictures; and, as he came to the picture of the murdered man and the house where he had lived, for the second and third time in that single test the light—stationary when Sin Chung Ming glanced at the other photographs—trembled across the screen to the third dividing line. For the others it had moved hardly eighteen inches, but when Sin Chung Ming saw the pictured face of the murdered man it had swung almost three feet.

"Inspector Walker," Trant drew the giant officer aside, "this is the man, I think, for the final test. You will carry it out as I arranged with you?"

"Sin Chung Ming," the psychologist turned back to the Chinaman swiftly, as the inspector, without comment, left the room, "you have been watching the little light have you not? You saw it move? It moved when you lied, Sin Chung Ming! It will always move when you lie. It moved when you said you did not know Walter Newberry; it moved when you said you did not recognize his picture; it moved when you said you did not know his house. Look how it is moving now, as you grow afraid that you have betrayed your secret to us, Sin Chung Ming—as you have and will." Trant pointed to the swinging light in triumph.

A low knock sounded on the door, but Trant, watching the light now slowly returning to its normal place, waited an instant more. Then he himself rapped gently on the table. The door to the next room—directly opposite the Chinaman's eyes—swung slowly open, and through it they could see the scene which Trant and the inspector had prepared. In the middle of the floor knelt young Mrs.

Newberry, her back toward them, her hands pressed against her face; and six feet beyond a man stood, facing her. It was a reproduction of the scene of the murder in the billiard room of the Newberry house. Siler and Ferris stirred and stared swiftly, first at the Chinaman's passionless and immobile face; then at the light upon the screen, and saw it leap across bar after bar. The Chinaman saw it, and knew that it was betraying him, but it leaped and leaped again; swung wider and wider; until at last the impassiveness of the Celestial's attitude was broken, and Sin Chung Ming snatched his hands from the metal plates.

"I had guessed that, anyway, Sin Chung Ming," Trant swiftly closed the door, as Walker returned to the room. "So it was you that fired the shot, after watching the house with Wong Bo, as his fright when he saw the picture of the house showed, while Billy Lee and Sing Lo were not needed at the house that night and had never seen it, though they knew what was to be done. That is all I need of you now, Sin Chung Ming; for I have learned what I wanted to know."

As the fourth of the Chinamen was led away to his cell, Trant turned back to Inspector Walker and Siler.

"I must acknowledge my debt to Mr. Ferris," he said, "for help in solving this case. Mr. Ferris, as you already know, Inspector Walker, as special agent for the Government, has for years been engaged in the enforcement of the Chinese exclusion laws. The sentence repeated to us by Mrs. Newberry, in which her husband, delirious with fright, seemed warning some one that to acknowledge that his mother had large feet would prevent him from 'getting in,' seemed to me to establish a connection between young Newberry's terror and an evasion of the exclusion laws. I went at once to Mr. Ferris to test this idea, and he recognized its application at once.

"As the exclusion laws against all but a very small class of Chinese are being more strictly enforced than ever before, there has been a large and increasing traffic among the Chinese in bogus papers to procure the entry into this country of Chinese belonging to the excluded classes. The applicants of the classes excluded are supplied with regular 'coaching papers' so that they can correctly answer the questions asked them at San Francisco or Seattle. The injunction to 'say your mother had small feet' was recognized at once by Ferris as one of the instructions of the 'coaching papers' to get a laborer entered as a man of the merchant class.

Mr. Ferris and I together investigated the career of Walter Newberry after his return from China, where he had spent nearly the whole of his life, and we were able to establish, as we expected we might, a connection between him and the Sing Lo Trading Company—a Chinese company which Mr. Ferris had long suspected of dealing in fraudulent admission papers, though he had never been able to bring home to them any proof. We found, also, that young Newberry had spent and gambled away much more money in the last few months than he had legitimately received. And we were able to make certain that this money had come to him through the Sing Lo Company, though obviously not for such uses. As it is not an uncommon thing for Chinese engaged in the fraudulent bringing in of their countrymen to confide part of the business to unprincipled Americans—especially as all papers have to be viséed by American consuls and disputes settled in American courts—we became certain that young Newberry had been serving the Sing Lo Company in this capacity. It was plain that he had purloined a large amount of money, and his actions, as described by his wife, made it equally certain that he had been sentenced by the members of the company to death, and given the Oriental alternative of committing suicide before eleven o'clock on Sunday night. Now whether it will be possible to convict all four of the Chinamen we had here for complicity in his murder, or whether Sin Chung Ming, who fired the shot, will be the only one tried, I do not know."

"I doubt whether, under the circumstances, any force could be brought to bear that would extort any formal confession from these Chinamen." The Government agent shook his head. "They would lose their 'face' and with it all reputation among their countrymen."

At this instant the door of the room was opened, and the flushed face of the desk sergeant appeared before them.

"Inspector!" he cried, sharply. "The chink's dead! The last one, Sin Chung Ming, choked himself as soon as he was alone in his cell!"

"What? Ah—I see!" the immigration officer comprehended after an instant. "He considered what we learned from him here confession enough—especially since he implicated the others with him—so that his 'face' was lost. To him, it was unpardonable weakness to let us find what we did. I think, then, Mr. Trant," he concluded, quietly, "that you can safely consider your case settled. His suicide is proof that Sin Chung Ming believed he had confessed."

THE END

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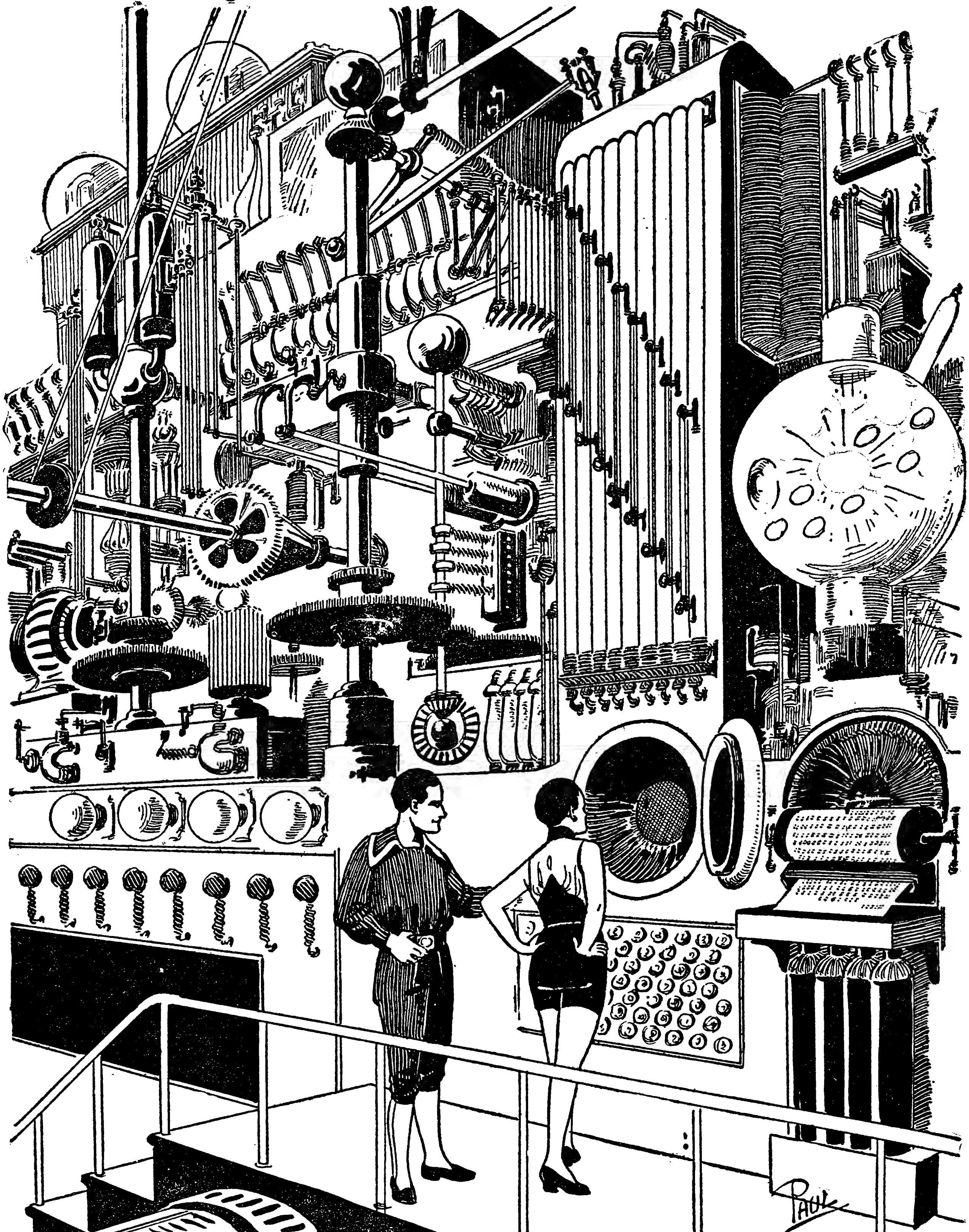
The THOUGHT MACHINE

By Ammianus Marcellinus



At last, after twenty years of intensive struggle, his machine was complete—a device of a hundred thousand parts, that in its different divisions would perform nearly all the simpler operations of the human mind with as high degree of accuracy as the adding machine.

THIS is an account of the invention that surpassed all the wonders of the Twentieth Century, the very crown and climax of that glorious age—the invention that first led mankind to unbelievable heights, and then exceeded its powers, wrecked its minds, and cast the human race down into the barbarism and squalor of the present time. The invention is now lost. A curse on the age that rediscovers it! This account is written as a warning for the future——if ever, in the dispensations of an all-wise Providence, our miserable remnant of humanity shall have a future. There is one device of mechanics that is one too many. Of all the trees in the garden of science man many eat, but of this tree he shall not eat, or he shall surely die.

It is necessary first to give a brief explanation of man's thoughts at the time. The great success of men with material things had convinced them, for the first time in history, that there is nothing in the universe that is supernatural, that everything that exists, including life, can be understood mechanically and dealt with according to mechanical laws. They allowed no exceptions to this rule. As their physicians applied the laws of chemistry to life and death, in the same way, without hesitation, their psychologists applied laws of another sort even to the conviction of immortality, and to all the phenomena of the human mind. The mind no less than the body, they said, was a machine, and they investigated the details of its working as remorselessly as those of any other machine. These ideas were commonplace to every scientifically trained person of the time.

In the year 1927 a young German, Heinrich Schmidt, or Smith, landed in America and changed his name. He was a small man, with blue eyes and pale hair, and wore those contrivances they called spectacles. In his leather bag were diplomas and credentials from the great University of Jena, and behind his pale eyes were the habits of patience and unending thoroughness that had lifted a race without much inspiration into the foremost ranks of scientific achievement. He went to work for an adding machine concern, devising levers and eccentrics, and presently became sufficiently Americanized to build a small laboratory in his garret and play with researches that had nothing to do with his employer.

AS humanity progresses, we do more and more things by machinery. But a machine that can think out a problem of itself seems, at first suggestion, an impossibility. Yet, we now employ machines that think. We have tide-predicting machines that solve complicated problems inside of a few minutes, which would take a mathematician hours to figure. We have calculating machines which do our thinking for us, in that they add, subtract, multiply and divide in a fraction of the time it would take us to accomplish the same thing.

How far such almost-thinking machines can be developed is difficult to predict. What may happen in the distant future, when we actually make a machine that can think out our everyday problems for us, is told in an entrancing manner by our new author.

In the New York subway, that melting pot where the ingredients were mixed by the simple method of high pressure, Smith found himself poking his front overcoat buttons into the chest of a young girl. He braced himself so strenuously, though ineffectually, and was so distressed and apologetic, that the girl rode three stops beyond her destination out of curiosity. This was a new species of the male animal. As for Smith, alone in a strange land, he could have been taken by any pretty face. He quickly fell head over heels in love with her, and recorded the whole affair in his note-book, along with the reactions of selenium at high temperature, and his design for a typewriter eraser key.

We read: "Oftentimes I fear Tina and I are not well mated. Her darkness, like her vivacity, to her Italian parentage may be ascribed; yet those qualities which make her so charming to me may make her for me unsuitable. And also me for her. Yet it may be I shall find in her the inspiration I need, for although oxygen and hydrogen not easily do unite, there is much energy liberated when they are by force brought together. And let this be a consolation—their union is more permanent than those of more miscible elements. Yes, Marriage, which is Nietzsche's '*erbärmliche Behagen*', may be the salvation of poor Heinrich. I am so lonely."

In which, unless the ignorance of a later age be at fault—which is possible enough in these barbarous times—Smith showed the typical specialists' ignorance of another field. At any rate, whether or not hydrogen and oxygen are easily united, Smith and this girl were not. After two meetings, she cultivated him only to display this unusual conquest to her giggling friends, who perforce were satisfied with bootblacks and factory hands. She was what they called a flapper. Heinrich did not dance, and was uncomfortable meeting people. But he never deplored her taste in friends, or in shows, for he never saw either, being blind with the blindness of love. Yet he was troubled because he could not interest her in science. He brought her his beloved Poincaré and she returned it unread, protesting it gave her a headache. He showed her his little laboratory, built up with so much loving pains, with so many ingenious little devices for economizing money; and she promised to embroider some tidies for it. She could not understand why he had insisted on bringing a chaperone . . Then the friend, who has left us our only disinterested history of the affair, recommended Slosson, and he sent her a copy of "Creative Chemistry"—for her *birthday!* His letter accompanying the book was full of tenderness and love, but hers in reply was full of passion and far from loving passion. A girl friend had seen the ridiculous gift.

Yet Smith had his inspiration from her. She had suggested a cabaret one evening, an evening that German thoroughness had set aside for the typewriter eraser.

"I am so sorry, darling, but on Thursday night I must my ideas think out."

"Oh yes, so's your old man. Why don't you invent a thinking machine, then you'd have time to take me out?"

And the next day Smith, standing before a turret lathe that was turning out one of his designs, marvelled at her genius, and at all the wonder of her. The turret lathe was a cunning device that performed a dozen operations on the end of a brass rod, drilling, cutting, slicing, stamping, taking away one tool and applying another, all without the intervention of a human hand. Smith had seen those machines a thousand times, but never saw to the heart of one until that day.

"That thing thinks," ran his thoughts. "It performs all the functions of mentality within the limits of its nature. Yes, and the adding machine, to which those parts the turret lathe makes will be applied—ah, she is a wonderful woman . . . the adding machine . . . does it perform the same operations as the human brain upon its problems? —no matter, since it gets the same results—Never in a thousand life-times would that idea have come to me, and *she* . . ."

He went home and wrote that hodgepodge of ideas in his notebook.

His further entries are curious:

"The data on which an adding machine, or a turret lathe, perform their operations are limited in quantity, and in quality identical. The data on which a human mind operates are of immense number and variety without limit. A machine might possibly," (the "possibly" is underlined) "be constructed to perform any given operation of human thought, as the adding machine performs the arithmetical operations, but a machine that could duplicate any considerable number of the so variable human operations would be necessarily of a complexity unimaginable. The thing is impossible."

Under this again was written: "Yet I should like to give Tina the glory of having been the inventor of so wonderful a device. The thought is hers. She is a greater scientist than I, for all my years at the University."

And under that: "Since it is impossible to make one instrument to perform all the functions of intelligence, why not make numerous instruments each one to perform some special function. Such already is the adding machine and the turret lathe, yes, and the linotype and many others. These things do not think as a man thinks, but the same results they achieve. And then perhaps, possibly, the combining of many such machines into one great mechanical brain would be only a task of detail and great intricacy, requiring no more than patience. Patience, that is the answer to everything.

"Ah, Tina! A brain like Einstein's is in that so beautiful body. It shall be the labor of my life for your sake, Tina, this idea to fruition to bring."

The Einsteinian brain, as we know by her letter to Heinrich written the same evening, was at approximately that moment engaged in memorizing the words of a new popular song, two lines of which she quoted as examples of super-human cleverness:

"Could she love, could she wōō,
Could she, could she, could she coo?"

The super-human genius of them appeared to lie in some sort of pun, the secret of which is tragically lost to later ages. It was a night or two afterward that Smith mailed her "Creative Chemistry," but her angry letter in return was never answered. Something had happened inside Smith's brain. To him, as to so many other men of that glorious era, science was a passion compared to which human love was sludge. He wrote in his notebook:

"Tina is frightfully angry with me. It is of course the fault of her training, I do not hold it against her. I must write to her, yes, I must write to some professors of psychology and obtain books. I must study the nature of the act of thought and the details of the human brain." He thought he was interested in the great idea for her sake, but in reality it was for the sake of the idea.

Tina waited two weeks for Smith to make overtures. She could not imagine him angry, and was perplexed by his silence. She wrote him again. By this time the inventor was very much more in love with his invention than he had ever been with the woman, and under high pressure with the need of some other confidant than his notebook. The amazed young lady received a letter of many pages, filled with theories and—she could not believe her eyes—mathematical formulae! Not a word of affection or a compliment in it all! How to take it was beyond her experience. It was too obviously not an insult, enthusiasm was written in every line, but *what* was it? She was perplexed, lost. The strange male animal had gone beyond her.

Three weeks later (and she had not written in the meantime) she received a second letter. Heinrich had put aside the great idea and was working night and day on his typewriter eraser. That was his apology for not having seen her, and the only personal word in the letter. The eraser key meant money, much money, and unlimited money was needed for the great idea. Not a word about money being needed for matrimony; which had once been the subject of their discussion. She tossed the letter into the kitchen stove and went to a dance.

Smith patented his eraser and reaped a fortune. It was a cunning device that enabled the typist to eliminate a letter as it was made. Till that time, erasing was done by hand. The reward for it was immense, but Smith, with an eye to the years of patient experimenting ahead of him, wrote that it was "probably insufficient." Events proved he was right.

His next experience was a letter from Tina's father to the effect that he could choose between marrying Tina immediately or facing a lawsuit for breach of promise. Poor Heinrich was perplexed by one sentence, which seemed to imply that Tina was ready to testify to their illicit relations. There had been no such relations. It did not occur to him that the letter had been drawn up by one of the cleverest lawyers in the city, or that blackmail, in the form of a criminal charge, was also suspended above his unsuspicious head. He married the girl, lamenting to his notebook the time the honeymoon would take from the great idea, and thereby inaugurated one of the saddest chapters in the biography of science.

Tina saw no reason why the whole time of her husband should not be at her disposal, nor why the whole income from the typewriter invention should not be used for buying her Rolls-Royces and a palace. When Smith bought an abandoned farm and proposed to live on it, with the big barn for a laboratory, she consulted her lawyer and was nonplussed to find she had no choice but to live there with him. It is believed her family considered having him declared insane, but as he had relatives in Germany who might have contested his recent marriage on that ground, the promising idea was abandoned. His wife set herself to nag him into compliance with her wishes, and the rest of Smith's story must be read with the remembrance of that domestic discord perpetually in the background.

But the mention of it disappears from his notebooks after the first month. He must have resolutely suppressed all thought of it. The great idea was beginning to take shape, under the guidance of his psychologic reading, and with the aid of painstaking assistants imported from Germany. (He tried Americans at first, and found them not to his liking.) The details of that invention remain mysterious to us, like the details of that other marvel by which, as the ancient writers tell us, ten million persons in their own homes could listen to one man's voice, though he might be a thousand miles away. The voice came through the walls of the house without hindrance, but if one went out into the open air, whence it came, it could not be heard; it was audible only inside. Such miracles, which the intelligence would refuse to believe were it not hard to disbelieve the unanimous evidence that attests them, must remain beyond our understanding.

In those days all the roads were open, and from San Francisco eastward around to Tokio, men of science exchanged their ideas and helped one another's ignorance. All the great triumphs of that age were the products of unlimited cooperation between thousands of educated men. The lonely and unassisted students of our day must content themselves with such knowledge as they can individually mine from the ancient books, and can individually understand. Some few elemental laws may still be ours, but the complexities through which they were built up into the power of Gods remain forever beyond us. This latter age must be reduced to writing love stories into the history of a mechanical invention, from sheer barbarous inability to understand the mechanics of it.

Yet if I knew the secret of Henry Smith's invention, I would not betray it. His too great knowledge is the cause of our present ignorance, and the race through centuries of self-discipline will have to climb slowly back to the mental heights from which he has dethroned us. It is after all no mystery that we cannot understand his secret, though it is written for us to read. Our fathers' degeneration did not cease till they had fallen below the point where they were able to understand and to use it. We may perhaps be slowly climbing back, but the Twentieth Century looms above us like a snow-covered mountain from a summer plain.

I copy from Smith's notebook:

"A great number of electro-magnets, or perhaps solenoids, of carefully graduated and conflicting strengths, may represent the ruling tendencies of the mind; an infinite number and variety of electrical impulses may represent the data given; and interlocking and mutually inhibiting contacts, closed by the solenoids, give the result. To secure the necessary variations of the electrical current representing data, radio-frequency should be used, rectified and amplified by units attached to each solenoid or electro-magnet."

Whatever that may mean (and it was only a first design that he ultimately altered out of recognition) his original machine was as large as the barn. And he was very dissatisfied with it. He records that it indeed answered questions, but it furnished only those answers which his own mind knew, and which he had built into it. Thus: "Is it advisable to commit murder?" spelled out by pressing certain electrical contacts, returned the answer "No." Smith was dissatisfied, almost in despair. He added a button for Tina and asked: "Is it advisable to murder Tina?" The answer was the same.

"Ah," said Smith, "the machine has not my connotations with the name." But he continued to treat her with tenderness, for she was as unhappy as he.

Smith took up the study of Chinese, for, he said: "It is necessary for this machine, that we have an alphabet capable of expressing ideas, rather than an alphabet like ours, which only expresses sounds. I will study the theory of expressing ideas otherwise than by sound, for I must invent a method of expressing them electrically. An electrical alphabet."

But he was a poor linguist, and his mind did not work in a Chinese way. Perhaps his ultimate success is really due to a young Chinese, Fung Low, who was brought from China in the steerage—for Heinrich had quickly come to saving pennies, as he counted his resources and the years of work ahead of him. But despite the steerage, Fung Low solved the problem of the electrical alphabet, and nearly revolutionized the English language. Philosophers acclaimed a new vehicle for human thought, and loaded Smith and the Chinaman with praises; but Smith thought gloomily how far his and Fung Low's human thought ran in advance of mechanical thought—and Tina thought still more gloomily how far his expenses were running ahead of his royalties. He was in such despair at the difficulties of his task that he meditated suicide, and Tina soon caused him further miseries.

She was living apart from him, in town, but she dared not give him any reason for divorce, or even for a separation, and she was wretchedly unhappy. In this strait the old plan of having him declared insane was revived, and easily accomplished. There was no difficulty about convincing a jury; * mankind has always been ready to look on inventors as insane, and Heinrich Smith was sent to an asylum. But he did not stay there long. The lawyers swiftly found that from fear of death and a contested will he had so tied up his wealth in favor of his coworkers that Tina could not touch a dollar of it.

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* Ammianus has here been betrayed into error by his ignorance of ancient law. Insanity was not tried by jury.—Commentator.

A lawsuit might have recovered it from their hands, but it would have taken years and she would have lived in comparative poverty in the meantime. Heinrich was quickly released, and with his release her ample allowance was renewed.

The rest had been just what he needed. He went to work, as he says himself, "on a subtler principle;" and at last, after twenty years of intensive struggle, his machine was complete; a device of a hundred thousand parts, that in its different divisions would perform nearly all the simpler operations of the human mind, with a degree of accuracy of as high degree, as the accuracy of his old friend, the adding machine, and without fatigue. But as the adding machine had been no match for a trained bookkeeper, the Psychomach, as Smith called it, was no match for a trained thinker. It occupied a large circus tent; it had cost, first and last, about five million dollars; and it left Smith as dissatisfied as ever. And in addition, impoverished.

"As a first model," he wrote in his sixteenth notebook, "it will do very well. The first models of the airplane or the submarine were no more promising. But the completion of it would take six lifetimes, and all the money in the world.

"The human mind is a machine. There can be no doubt of that, though we do not quite understand the principle on which it operates. Whatever the soul may or may not be, if there is a soul, it is dependent on the flesh machine of the brain. This can be proved by operating surgically on the brain, or by the administration of drugs. By such means the character of the 'soul' can be radically altered. Moreover the action of the brain must take place within the cells, since each cell is a living unit. And since each cell is a simple unit, the action must be divisible into simple components. By dividing all possible thought into its simplest elements it should be possible to produce an external analogy to it in a machine; and, without performing that process, I have produced such a machine. What is lacking?"

Smith opened his results to the public, and appealed for financial support. He did not get it. Speculative investors offered themselves, but they wanted to control the results, and he would not permit that. Governments and public bodies talked, but they compromised by sending him medals and resolutions and spent their money on battleships. The scientists of the world contributed, but they were poor—few had had Smith's luck of a successful first invention. In this dilemma he received a welcome suggestion from the circus tent; he announced his machine as a side-show attraction, and charged admission. It could answer questions with great success; he even managed to teach it a clumsy game of checkers, based on the principle of one right move for every situation, but the greatest attraction of the device was, that it was the most complicated and useless machine in the whole universe. Some uplifter with Arthur Brisbane ideas got hold of him, and over the flap of the exit the visitor beheld a huge sign:

"THE MOST COMPLICATED MACHINE IN THE WORLD
is not this you have just seen, though it covers half an acre, but the machine inside your small head.
WHY NOT USE IT?"

"Why not?" said Heinrich, when the visitor brought him the idea. "Why build five million dollar imitations, *nicht wahr?* The joke he is on me." And he hung the canvas with his own hands.

Nevertheless, the circus tent was his salvation. The need for continuous novelty led to continuous improvement, and advertisement led to imitation. Smith had never made any secret of his designs, and smaller models, made for entertainment, were soon on display all over the world. Perfection slowly followed. In any problem which had a single, but unknown, answer, one model or another of the Psychomach, or mind machine, could find it if all the data were known. Small units of the machine, designed to solve problems of a definite category, began to come into commercial use. An early occupation for them was found by the short-story writers, who were amazed at the number of plots they could grind out. The movies and the popular playwrights found it equally precious; and still another field was that of providing words and music for popular songs. Still another was that of editing tabloid newspapers. Smith asserted his belated rights and collected royalties. When he had found himself bankrupt, Tina took a train for Mississippi and got a divorce, without alimony. Now she dug up the letters of his courtship to prove that the idea of the Psychomach was hers, and began a law suit. Smith was by this time a much older and slightly wiser man. He turned the case over to competent attorneys and went on with his work.

This was now almost entirely research in pure science. He wanted to know how the mind came by original ideas, "inspirations," as they are called. In the possession of a new fortune, and realizing, at the age of fifty, the shortness of human life, he called to his assistance the leaders in psychologic science from all the world, as many as could be lured by the glory of a great work, or the promise of a high compensation. Psychology had been making its own advances in twenty-five years, and they were able to help him. They too regarded the mind as a pure machine, and they shared his simple faith that a machine might be made by man to do its work. They taught him that the mind did not lie in the brain alone; that the sympathetic nervous system, with appanages of muscular tissue and endocrines were as much a part of it as the cerebrum. These things were the source of most of human mental activity, the Unconscious of the dreams of Sigmund Freud: in the flesh machinery of the body he found the last details of his secret. The final quarter-century of Smith's life was the calmest and happiest, and his old age was crowned with success. In every walk of life, machines took the place of human effort; and the task that was begun, when the cave man used a sharp flint to supplement his feeble claws, or when the primitive farmer used the mightier muscles of water-power to grind his corn, was completed before the end of the Twentieth Century with a combination of greater intricacy and range than the combination of the human intellect. The machine itself did its own completing; on the last problems Smith and his assistants no longer wracked their brains; they presented them to the machine, and the machine solved them. All the immense resources of universal science were called into play; principles and laws that were unknown when Smith started his work took part in its completion. The discoveries of 1925-1975, that greatest half-century in all human history, made it possible and made it work. The chance jest of an ignorant girl, the suggestion of something beyond human possibility, through patience and faith and unending research bore fruit in reality, in that one field of human activity that does not admit the impossible. "Give us time and money enough," said the civil engineers of 1900, "and we will do anything." By the year 2000 that proud boast was vaunted in every field of scientific endeavor. Mankind stood on the pinnacle of pride.

Heinrich died soon after the completion of the invention as if he had lived only for his work, and ceased to exist when there was no more work for him to do. His undertaking was a success, the perfection of it could be left to other men. Yet after a life-time of unhappiness he died happily, for he left this earth with the most blessed conviction any man can carry with him—that his life had been of use to his fellow men. He had conquered a new field of science, and he had given the tool-using animal a new and most powerful tool. They cremated him with pomp (for he had wished to be cremated), they ranked him with the greatest men of the ages: and so, not without regret, we take our leave of Heinrich.

For the next one hundred years it seemed as if there was no limit to the power of the tool-using animals. Machines did what was too strenuous for human muscles, and machines did what was too difficult for human brains. Obstacles vanished beneath them like steel beneath their torches; distances flew behind them like space behind their wheels. To dream a thing was to accomplish it, and if man did not know how, the machines found out. The new machines *lived*: they had a life of their own, they threw up their own questions like minds, and like minds answered them. The most difficult achievements seemed only a matter of a little time: the solution of the ultimate riddles of the universe were in view. The Psychomachs themselves told how to build better Psychomachs, and the building, under their guidance, and with the aid of the work-machines of the year 2,000, was a merely mechanical task that could have been accomplished by Tina. In the words of a contemporary, mankind had nothing to do but to sit under the palm trees and let progress unendingly roll on.

The reaction was vigorous. All men do not like nothing to do. Painful necessity had built into the race, through countless ages, a love of labor. The athlete gloried in the exertion of his body and the thinker in the exertion of his mind. But what necessity had bred into the race, the lack of it could breed out. In the midst of their glories the *men* of the twenty-first century began to fade. They could not accede to the proposals that were made to destroy their machines, and how can we blame them for that?—yet the machines freed them from every care and left them purposeless as tropical savages. Food was made synthetically and delivered to them without a human hand or mind intervening in the process. Clothing, shelter, amusement, all were as easy; a few men worked about half hour a day, for a few years of their lives, and *their* tasks were purely routine. Even the problems of love were referred to the machines; and no man took thought for the morrow or for anything else. A man who ventured to think was as ridiculous as a man who offered to dig with a shovel, while an excavating machine was standing by.—"You fool, you can mull over that for the rest of your life and you won't get as good an answer as a machine can give you in half a second." And it was true. There were no social problems, for the infallible machines had solved them; there were no political, no human, problems, the machines had solved those and their answers could not be bettered; there were not even mechanical problems. The machines probed their own weaknesses and themselves found the remedy. By the year 2050, with some new metals and new methods, there was not a mechanical device that would not last for centuries, or would need attention of any kind. Such parts as had to be renewed were renewed automatically, and automatically supplied. Lubrication was as instinctive with a machine as eating with a man. Transportation was automatic and indestructible. The weather was under control and everywhere at an optimum. And man sat under the palm trees.

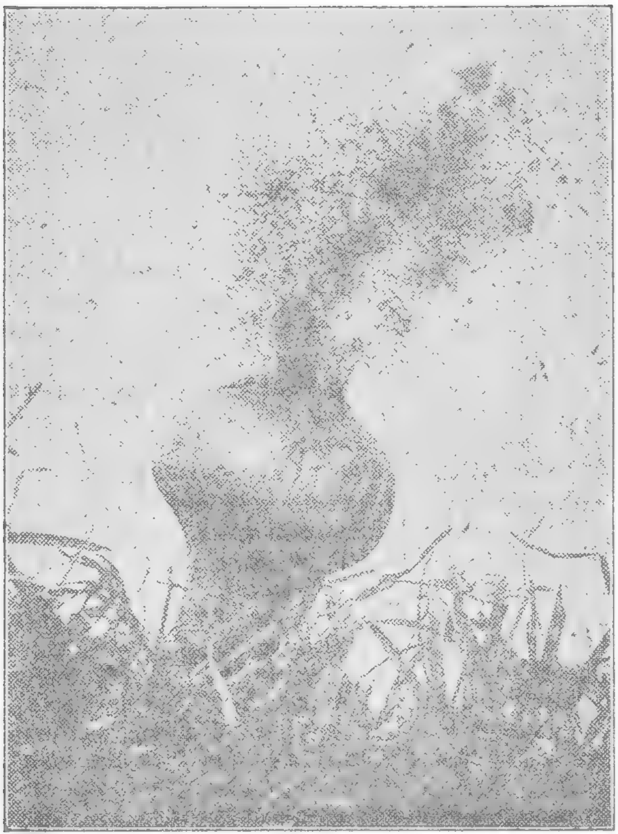
In another hundred years came warnings. All the data in the world had long since been translated into the electrical alphabet and given to immense psychomachs, square miles in area; and these began to issue warnings. This would happen, and that. The machines would begin to need renewals. A change in the ecliptic had produced a change in weather conditions, such and such would have to be done to remedy it. Of the change in men's characters they knew nothing, for they had been given no data in a hundred years. But they reasoned it out. And they warned: such and such is probably the condition of men today. If so (the machines were magnificently disinterested), we should be destroyed immediately. But the machines had only intellect, no power, no will. They had will and power only for the tasks that had been set them. And neither Heinrich Smith nor any other had thought to set them the task of saving their masters from degeneration. In due time the machines thought of it, but their masters were too happy under the palm trees. And even the great machines had their limitations. They could not do more than God Almighty, and He cannot save a race of men that will their own destruction.

We do not know the details of what happened. We cannot read the electrical alphabet—having no machines to do it for us—and the devices for keeping written records were soon superseded by newer methods. Perhaps in regions remote from civilization the wild beasts were multiplying, but no machines had been made to slay wild beasts. Perhaps the remnants of Eskimos grew strong with the change of climate, and descended into the Southlands. Perhaps floods and natural disasters came to men who had forgotten how to cope with them. We do know that calamity fell on the miserable relic of humanity. Those things with the minds and characters of Tina, but without her energy, those by-products of their own machines, were sunk like canoes in a hurricane. A few of the strongest survived. A few of the strongest must have survived. Perhaps they were not the strongest, but only those to whom misfortune came so gradually that they had time to adapt themselves, to remember the ancient virtues of the race. At any rate they could not stop the current on which they were riding to sea-level. They could not halt their fall at any lower stage of civilization. They went almost to the bottom of primeval savagery, and had good cause to congratulate themselves that they lived at all and did not perish. Men who had spent their youth in the ease of a man-made Garden of Eden spent their middle age chewing the bones of their own kill, or perhaps hiding apprehensively from the savage progeny of the Eskimos. At any rate we, their remote descendants, still live by habit in secluded places, difficult of access, and still have no stronger weapons than the bow and arrow. Gunpowder we can make, but guns are beyond our metallurgy, and the old ones are rusted now and gone.

So savage are we grown that those of us who live in the ruins of the old cities, and are led by a love of knowledge to explore the books of the ancient past, are looked on with suspicion and contempt by our fur-clad brethren, and have to use the arts of priestcraft to prevent their killing us. We eat grain, but our fields must be protected by the fear of magic; the herdsmen-hunters of the plains rob and kill all common agriculturists as soon as they have accumulated a few possessions. Still, a sort of conspiracy of magicians is beginning to grow up among us; some day we students shall unite and bring the fields of outsiders under our protection; we shall organize an army too, to fight those of the raiders we cannot intimidate. A new civilization may grow up, under the fostering care of our priesthood. And no doubt we shall have to invent some forms of religious mummery for the crowd; and no doubt we shall have to find a general for our soldiers, and he will make himself king: we shall have to fight him for the mastery of our people and use the arts of superstition against his swords. And vulgar men, of common ambition, will creep into our order and corrupt it, converting it to their own uses. Yet civilization may grow out of it all in some distant day; for just so, if we read our books aright, it grew in the past. These ruins may yet be re-peopled by myriads, whose minds will grow strong, who will forget savagery and help one another, who will read the ancient books and learn from them the secret of the ancient greatness. The flying machinery of old may again fill the heavens, over a race again grown free and strong. If the beasts of today, who are the progeny of the impotents of yesterday, can ever breed a race of men, these things shall be. God grant it.

THE END

"The Red Dust" a Fact!



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Herewith is reproduced an actual photograph of an exploding mushroom of the type which Mr. Leinster described in the story which we ran in our January issue, entitled "The Red Dust". Mr. Leinster's story was, of course, purely fanciful, and we doubt whether he had any idea at all that there could be such a thing in existence as an exploding mushroom of the kind he described. Nevertheless, the thing is a fact, as will be seen by reading the following, which accompanied the copyrighted photograph supplied to us by Underwood & Underwood, of New York City.

* * *

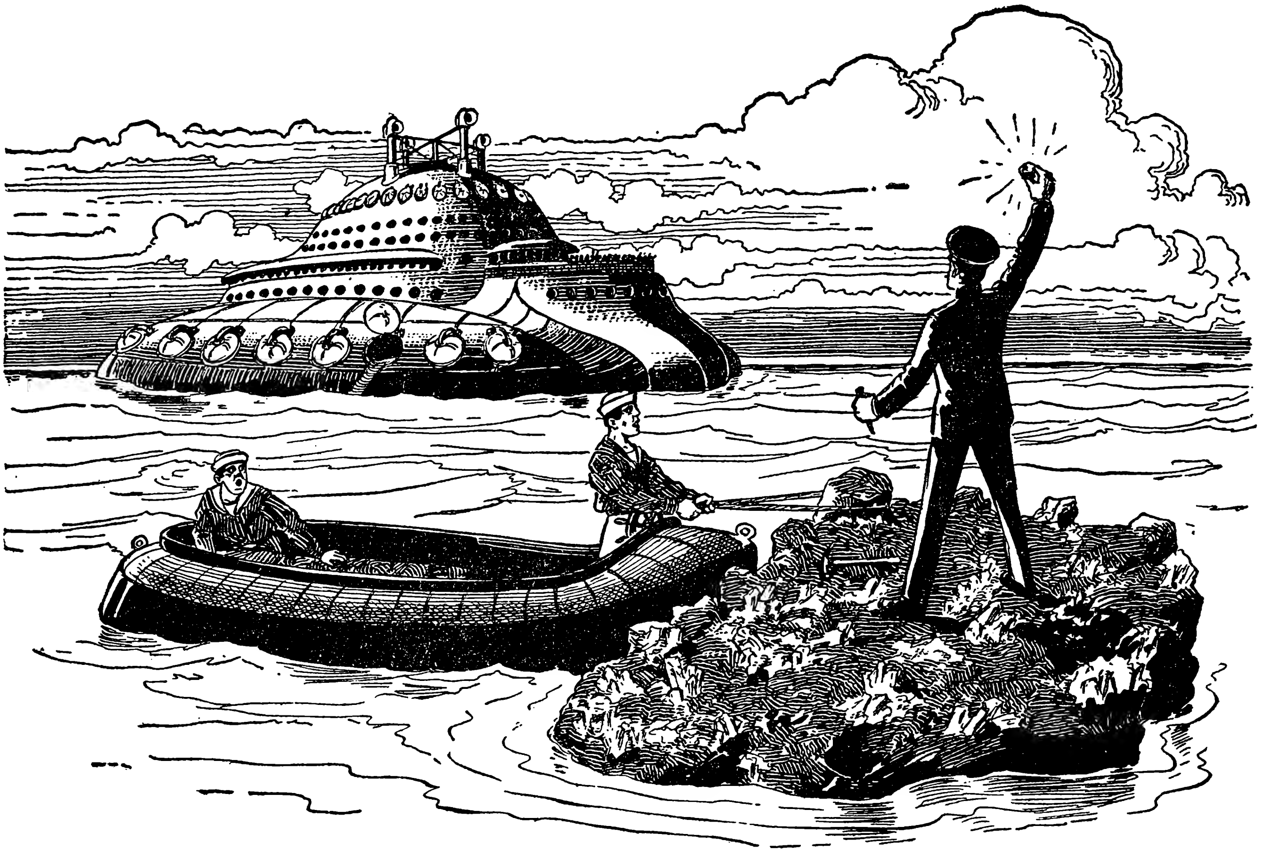
PECULIAR MUSHROOM GROWN IN FRANCE WHICH EXPLODES WHEN THE SUN'S RAYS STRIKE ITS SKIN

Paris—A plant which has characteristics unlike any other of its species has been recently discovered. It is a mushroom which resembles a pear in shape and is covered with a shiny, elastic skin. The center contains a white, spongy substance which as the plant matures changes to a black powder. At a certain period in its growth when the sun's rays acquire enough power the mushroom explodes hurling the black powder into the air and in falling surrounding plants are covered with the substance.

The SECOND DELUGE

By Garrett P. Serviss

Author of "The Moon Metal," "A Columbus of Space, etc.



The boat rowed close up to the place where he was standing. . . with apparent reluctance, the Frenchman gave over the work he was doing . . . and standing up to his full height, waved, with a triumphant air, something that sparkled in the sunshine.

What Went Before

COSMO VERSAL has made the discovery that the world is on the eve of a second deluge. He placards New York with posters, calling all to prepare for the coming flood. For his own safety he begins the building of an enormous ark and barely has it completed when reports are flashed about the world that the waters are actually beginning to rise.

Suddenly, in midday, the world grew dark and people became terror-stricken. The rain descended from an invisible source and the water rose. Literally, the world sweat. About his ark Cosmo had placed electric wires, and when the maddened populace, now terrified beyond measure, attempted to storm the ark, hundreds were shocked and many instantly killed. Then the waters rose ten feet an hour.

Finally the City of New York is all submerged and the huge Municipal Building, is nearly all under water when the last of the government battle-ships breaks away from the Brooklyn Navy-Yard and is carried over against the Municipal Building, smashing through the side and then sinking to the bottom. From this wreck a small boat arises and in this boat comes Amos Blank, the richest man in the world, alongside the ark. Blank has lost his mind, but he offers a billion dollars in securities, and waves the packet over his head, if Cosmo will take him aboard. He is taken in and then the Ark is started toward the East where, it has been figured, is the world's highest land, and which will be the first landing place when the waters recede. Suddenly those aboard see the stars overhead and know it has stopped raining.

Meanwhile Professor Pludder has been conveying the President with a party in an aeroplane while the water is falling, and when the rain stops this wonderful flying-machine rests on a mountain peak. It can be converted into a serviceable boat, and this is done.

The ark likewise came to rest on a high point of land, and remained so until a submarine vessel made its appearance near by. It was a French submarine, and the captain, de Beauxchamps, announced he had the King of England on board.

There is great rejoicing and excitement and Cosmo Versål invites the group to come aboard the Ark. However, only the king accepts the invitation and *the captain of the submarine and his party go off for further adventures and discoveries. After greetings are over, the King of England tells of the drowning of Great Britain and how only he, of all his party, was saved by the French captain of the* Jules Verne.

Later, de Beauxchamps, who was a famous French naval expert, once more approaches in his wonderful submarine. This time he goes aboard the ark and tells about his thrilling experiences with heretofore unknown monsters of the abysmal deep and of the submerged city of Paris. And when the two vessels, keeping company, arrive over the wonders of Egypt, de Beauxchamps and his party, accompanied by Cosmo Versál, go down in the submarine and visit the famous monuments and pyramids of Egypt. They examine the ancient Sphinx, where the submarine gets hopelessly caught by falling rocks. Thanks to the foresight of the French captain, who had provided for such a contingency, they are able to emerge from the depths and get back to the Ark in special suits, but not before they have climbed to the top of the Sphinx, which now conceals her secret no longer. The Sphinx reveals the prophecy of the Second Deluge!

In the mean time, Professor Pludder has safely carried the President of the United States and his party, westward in his wonderful aeroplane, which was later transformed into a power boat, and they disembark on ground above the dangerous waters on one of the highest Colorado mountain peaks, where they are helped by some people who miraculously escaped death from the flood. There is great rejoicing among the people when they learn that the President of the United States and his family are with them.

At this instant both surviving parties suddenly face a stupendous crisis.

THE SECOND DELUGE

By GARRETT P. SERVISS

(Conclusion)

CHAPTER XXII

The Terrible Nucleus Arrives

WHEN the company in the Ark had recovered from the astonishment produced by the narratives of de Beauxchamps and Cosmo Versál, and particularly the vivid description given by the latter of the strange idol concealed in the breast of the "Father of Horror," and the inferences which he drew concerning its prophetic character, the question again arose as to their future course.

Captain Arms was still for undertaking to follow the trough of the Red Sea, but Cosmo declared that this course would be doubly dangerous now that the water had lowered and that they no longer had the *Jules Verne* to act as a submarine scout, warning them of hidden perils.

> *WE have seen the highest peaks of the earth sink below the waves in the preceding instalments. There was nothing higher on the globe than Mount Gaurisankar, now sunk beneath the mounting floods. Clever and far-sighted as Cosmo Versál was, he forgot one important natural manifestation, namely the* Batholite. *The Batholite proves the great anticlimax to the "Second Deluge" and is interesting chiefly because it is good science and because the same results brought about by Batholites can be shown to have occurred a great many times during the geographical history on our planet.*
>
> *It makes a fitting ending for a great story.*

They must now go by their own soundings, and this would be especially dangerous in the close neighborhood of half submerged mountains, whose buttresses and foot-hills might rise suddenly out of the depths with slopes so steep that the lead would afford no certain guidance.

It was first necessary to learn if possible the actual height of the water, and whether it was still subsiding. It was partly for this purpose that they had passed over Egypt instead of keeping directly on toward the coast of lower Palestine.

But now Cosmo abandoned his purpose of taking his measurement by the aid of Mount Sinai or some of its neighboring peaks, on account of the dangerous character of that rugged region. If they had been furnished with deep-sea sounding apparatus they might have made a direct measurement of the depth in Egypt, but that was one of the few things which Cosmo Versál had overlooked in furnishing the Ark, and such an operation could not be undertaken.

He discovered that there was a mountain north of the Gulf of Akaba having an elevation of 3,450 feet, and since this was 220 feet higher than Monte Lauro, in Sicily, on which the Ark had grounded, he counted on it as a gage which would serve his purpose.

So they passed almost directly over Suez, and about 120 miles farther east they found the mountain they sought, rising to the west of the Wadi el Araba, a continuation of the depression at whose deepest point lay the famous "Dead Sea," so often spoken of in the books of former times.

Here Cosmo was able to make a very accurate estimate from the height of the peak above the water, and he was gratified to find that recession had not continued. The level of the water appeared to be exactly the same as when they made their unfortunate excursion in the direction of smoking Etna.

"It's all right," he said to Captain Arms. "We can get over into the Syrian desert without much danger, although we must go slowly and carefully until we are well past these ranges that come down from the direction of the Dead Sea. After that I do not see that there is anything in our way until we reach the ancient plains of Babylon."

King Richard, who was full of the history of the

Crusades, as well as of Bible narratives, wished to have the Ark turn northward, so that they might sail over Jerusalem, and up the Valley of the Jordan within sight of Mount Hermon and the Lebanon range.

Cosmo had had enough of that kind of adventure, while Captain Arms declared that he would resign on the spot if there was to be any more "fool navigating on mountain tops." But there were many persons in the Ark who were immensely interested.

The feelings of some were deeply stirred when they learned that they were now crossing the lower end of Palestine, and that the scenes of so many incidents in the history of Abraham, Moses and Joshua lay buried beneath the blue water, whose almost motionless surface was marked with a broad trail of foaming bubbles in the wake of the immense vessel.

Comso greatly regretted the absence of the submersible when they were picking their way over this perilous region, but they encountered no real difficulty, and at length found, by celestial observations, that they were beyond all dangers and safely arrived over the deeply submerged desert.

They kept on for several days toward the rising sun, and then Captain Arms announced that the observations showed that they were over the site of Babylon.

This happened just at the time of the midday dinner, and over the desert Cosmo seized the opportunity to make a little speech, which could be heard by all in the saloon.

"We are now arrived," he said, "over the very spot where the descendants of Noah are said to have erected a tower, known as the Tower of Babel, and which they intended to build so high that it would afford a secure refuge in case there should be another deluge.

"How vain were such expectations, if they were ever entertained, is sufficiently shown by the fact that, at this moment, the water rolls more than three thousand feet deep over the place where they put their tower, and before the present deluge is over it will be thirty thousand feet deep.

"More than half a mile beneath our feet lie the broad plains of Chaldea, where tradition asserts that the study of astronomy began. It was Berosus, a Chaldean, who predicted that there would come a second deluge.

"It occurs to me, since seeing the astounding spectacle disclosed by the falling apart of the Sphinx, that these people may have had an infinitely more profound knowledge of the secrets of the heavens than tradition has assigned to them.

"On the breast of the statue in the Sphinx was the figure of a crowned man, encircled by a huge ring, and having behind him the form of a boat containing two other human figures. The boat was represented as floating in a flood of waters.

"Now, this corresponds exactly with figures that have been found among the most ancient ruins in Chaldea. I regard that ring as symbolical of a nebula enveloping the earth, and I think that the second deluge, which we have lived to see, was foretold here thousands of years ago."

"Who foretold it first, then, the people who placed the statue in the Sphinx, or these astronomers of Chaldea?" asked Professor Abel Able.

"I believe," Cosmo replied, "that the knowledge originated here, beneath us, and that it was afterwards conveyed to the Egyptians, who embodied it in their great symbolical god."

"Are we to understand," demanded Professor Jeremiah Moses, "that this figure was all that you saw on the breast of the statue, and that you simply *inferred* that the ring represented a nebula?"

"Not at all," Cosmo replied. "The principal representation was that of a world overwhelmed with a flood, and of a nebula descending upon it."

"How do you know that it was intended for a nebula?"

"Because it had the aspect of one, and it was clearly shown to be descending from the high heavens."

"A cloud," suggested Professor Moses.

"No, not a cloud. Mark this, which is a marvel in itself: It had *the form of a spiral nebula.* It was unmistakable."

At this point the discussion was interrupted by a call to Cosmo Versál from Captain Arms on the bridge. He hastily left the table and ascended to the captain's side.

He did not need to be told what to look for. Off in the north the sky had become a solid black mass, veined with the fiercest lightning. The pealing of the thunder came in a continuous roll, which soon grew so loud as to shake the Ark.

"Up with the side-plates!" shouted Cosmo, setting twenty bells ringing at once. "Close tight every opening! Screw down the port shutters!"

The crew of the Ark was, in a few seconds, running to and fro, executing the orders that came in swift succession from the commander's bridge, and the passengers were thrown into wild commotion. But nobody had time to attend to them.

"It is upon us!" yelled Cosmo in the captain's ear, for the uproar had become deafening. "The nucleus is here!"

The open promenade decks had not yet all been turned into inner corridors when the downpour began upon the Ark. A great deal of water found its way aboard, but the men worked with a will, as fearful for their own safety as for that of others, and in a little while everything had been made snug and tight.

In a short time a tremendous tempest was blowing, the wind coming from the north, and the Ark, notwithstanding her immense breadth of beam, was canted over to leeward at an alarming angle. On the port side the waves washed to the top of the great elliptical dome and broke over it, and their thundering blows shook the vessel to her center, causing many to believe that she was about to founder.

The disorder was frightful. Men and women were flung about like tops, and no one could keep his feet. Crash after crash, that could be heard amid the howling of the storm, the battering of the waves, and the awful roar of the deluge descending on the roof, told the fate of the table-ware and dishes that had been hastily left in the big dining saloon.

Chairs recently occupied by the passengers on what had been the promenade decks, and from which they had so serenely, if often sorrowfully, looked over the broad, peaceful surface of the waters, were now darting, rolling, tumbling, and banging about, intermingled with rugs, hats, coats, and other abandoned articles of clothing.

The pitching and rolling of the Ark were so much worse than they had been during the first days of the cataclysm, that Cosmo became very solicitous about his collection of animals.

He hurried down to the animal deck, and found, indeed, that things were in a lamentable shape. The trained keepers were themselves so much at the mercy of the storm that they had all they could do to save themselves from being trampled to death.

The animals had been furnished with separate pens, but during the long continued calm the keepers, for the sake of giving their charges greater freedom and better air, had allowed many of them to go at large in the broad central space round which the pens were placed, and the tempest had come so unexpectedly that there had been no time to separate them and get them back into their lodgings.

When Cosmo descended, the scene that met his eyes caused him to cry out in dismay, but he could not have been heard if he had spoken through a trumpet. The noise and uproar were stunning, and the spectacle was indescribable. The keepers had taken refuge on a kind of gallery running round the central space, and were hanging on there for their lives.

Around them, on the railings, clinging with their claws, wildly flapping their wings and swinging with every roll of the vessel, were all the fowls and every winged creature in the Ark except the giant turkeys, whose power of wing was insufficient to lift them out of the mêlée.

But all the four-footed beasts were rolling, tumbling and struggling in the open space below. With every lurch of the Ark they were swept across the floor in an indistinguishable mass.

The elephants wisely did not attempt to get upon their feet, but allowed themselves to slide from side to side, sometimes crushing the smaller animals, and sometimes, in spite of all their efforts, rolling upon their backs, with their titanic limbs swaying above them, and their trunks wildly grasping whatever came within their reach.

The huge Californian cattle were in no better case, and the poor sheep presented a pitiable spectacle as they were tumbled in woolly heaps from side to side.

Strangest sight of all was that of the great Astoria turtles. They had been pitched upon their backs and were unable to turn themselves over, and their big carapaces served admirably for sliders.

They glided with the speed of logs in a chute, now this way, now that, shooting like immense projectiles through the throng of struggling beasts, cutting down those that happened to be upon their feet, and not ending their course until they had crashed against the nearest wall.

As one of the turtles slid toward the bottom of the steps on which Cosmo was clinging it cut under the legs of one of the giant turkeys, and the latter, making a super-phasianidæan effort, half leaped, half flapped its way upon the steps to the side of Cosmo Versál embracing him with one of its stumpy wings, while its red neck and head, with bloodshot eyes, swayed high above his bald dome.

The keepers gradually made their way round the gallery to Cosmo's side, and he indicated to them by signs that they must quit the place with him, and wait for a lull of the tempest before trying to do anything for their charges.

A few hours later the wind died down, and then they collected all that remained alive of the animals in their pens and secured them as best they could against the consequences of another period of rolling and pitching.

The experiences of the passengers had been hardly less severe, and panic reigned throughout the Ark. After the lull came, however, some degree of order was restored, and Cosmo had all who were in a condition to leave their rooms assemble in the grand saloon, where he informed them of the situation of affairs, and tried to restore their confidence. The roar on the roof, in spite of the sound-absorbing cover which had been reerected, compelled him to use a trumpet.

"I do not conceal from you," he said in conclusion, "that the worst has now arrived. I do not look for any cessation of the flood from the sky until we shall have passed through the nucleus of the nebula. But the Ark is a stout vessel, we are fully provisioned and we shall get through.

"All your chambers have been specially padded, as you may have remarked, and I wish you to remain in them, only issuing when summoned for assembly here.

"I shall call you out whenever the condition of the sea renders it safe for you to leave your rooms. Food will be regularly served in your quarters, and I beg you to have perfect confidence in me and my assistants."

But the confidence which Cosmo Versál recommended to the others was hardly shared by himself and Captain Arms. The fury of the blast which had just left them had exceeded everything that Cosmo had anticipated, and he saw that, in the face of such hurricanes, the Ark would be practically unmanageable.

One of his first cares was to ascertain the rate at which the downpour was raising the level of the water. This, too, surprised him. His gages showed, time after time, that the rainfall was at the rate of about four inches per minute. Sometimes it amounted to as much as six!

"The central part of the nebula," he said to the captain, through the speaking-tube which they had arranged for their intercommunications on the bridge, "is denser than I had supposed. The condensation is enormous, but it is irregular, and I think it very likely that it is more rapid in the north, where the front of the globe is plunging most directly into the nebulous mass.

"From this we should anticipate a tremendous flow southward, which may sweep us away in that direction. This will not be a bad thing for a while, since it is southward that we must go in order to reach the region of the Indian Ocean. But, in order not to be carried too rapidly that way, I think it would be well to point the Ark toward the northwest."

"How am I to know anything about the points in this blackness?" growled the captain.

"You must go the best you can by the compass," said Cosmo.

Cosmo Versál, as subsequently appeared, was right in supposing that the nucleus of the nebula was exceedingly irregular in density. The condensation was not only much heavier in the north, but it was very erratic.

Some parts of the earth received a great deal more water from the opened flood-gates above than others, and this difference, for some reason that has never been entirely explained, was especially marked between the eastern and western hemispheres.

We have already seen that when the downpour recommenced in Colorado it was much less severe than during the first days of the flood. This difference continued. It seems that all the denser parts of the nucleus happened to encounter the planet on its eastern side.

This may have been partly due to the fact that as the earth moved on in its eastward motion round the sun the comparatively dense masses of the nebula were always encountered at the times when the eastern hemisphere was in advance. The fact, which soon became apparent to Cosmo, that the downpour was always the most severe in the morning hours, bears out this hypothesis.

It accords with what has been observed with respect to meteors, viz., that they are more abundant in the early morning. But then it must be supposed that the condensed masses in the nebula were relatively so small that they became successively exhausted, so to speak, before the western hemisphere had come fairly into the line of fire.

Of course the irregularity in the arrival of the water did not, in the end, affect the general level of the flood, which became the same all over the globe, but it caused immense currents, as Cosmo had foreseen.

But there was one consequence which he had overlooked. The currents, instead of sweeping the Ark continually southward, as he had anticipated, formed a gigantic whirl, set up unquestionably by the great ranges of the Himalayas, the Hindoo Koosh, and the Caucasus.

This tremendous maelstrom formed directly over Persia and Arabia, and, turning in the direction of the hands of a watch, its influence extended westward beyond the place where the Ark now was.

The consequence was that, in spite of all their efforts, Cosmo and the captain found their vessel swept resistlessly up the course of the valley containing the Euphrates and the Tigris.

They were unable to form an opinion of their precise location, but they knew the general direction of the movement, and by persistent logging got some idea of the rate of progress.

Fortunately the wind seldom blew with its first violence, but the effects of the whirling current could be but little counteracted by the utmost engine power of the Ark.

Day after day passed in this manner although, owing to the density of the rain, the difference between day and night was only perceptible by the periodical changes from absolute blackness to a faint illumination when the sun was above the horizon.

The rise of the flood, which could not have been at a less rate than six hundred feet every twenty-four hours, lifted the Ark above the level of the mountains of Kurdistan by the time that they arrived over the upper part of the Mesopotamian plain, and the uncertain observations which they occasionally obtained of the location of the sun, combined with such dead reckoning as they were able to make, finally convinced them that they must be approaching the location of the Black Sea and the Caucasus range.

"I'll tell you what you're going to do," yelled Captain Arms. "You're going to make a smash on old Ararat, where your predecessor, Noah, made his landfall."

"Très bien!" shouted de Beauxchamps, who was frequently on the bridge, and whose Gallic spirits nothing could daunt. "That's a good omen! M. Versál should send out one of his turkeys to spy a landing place."

They were really nearer Ararat than they imagined, and Captain Arms' prediction narrowly missed fulfilment. Within a couple of hours after he had spoken a dark mass suddenly loomed through the dense air directly in their track.

Almost at the same time, and while the captain was making desperate efforts to sheer off, the sky lightened a little, and they saw an immense heap of rock within a hundred fathoms of the vessel.

"Ararat, by all that's good!" yelled the captain. "Sta'board! Sta'board, I tell you! Full power ahead!"

The Ark yielded slowly to her helm, and the screws whirled madly, driving her rapidly past the rocks, so close that they might have tossed a biscuit upon them. The set of the current also aided them, and they got past the danger.

"Mountain navigation again!" yelled the captain. "Here we are in a nest of these sky-shoals! What are you going to do now?"

"It is impossible to tell," returned Cosmo, "whether this is Great or Little Ararat. The former is over 17,000 feet high, and the latter at least 13,000. It is now twelve days since the flooding recommenced.

"If we assume a rise of 600 feet in twenty-four hours, that makes a total of 7,200 feet, which, added to the 3,300 that we had before, gives 10,500 feet for the present elevation. This estimate may be considerably out of the way.

"I feel sure that both the Ararats are yet well above the water line. We must get out of this region as quickly as possible. Luckily the swirl of the current is now setting us eastward. We are on its northern edge. It will carry the Ark down south of Mount Demavend, and the Elburz range, and over the Persian plateau, and if we can escape from it, as I hope, by getting away over Beluchistan, we can go directly over India and skirt the southern side of the Himalayas. Then we shall be near our goal."

"Bless me!" said the captain, staring with mingled admiration and doubt at Cosmo Versál, "if you couldn't beat old Noah round the world, and give him half the longitude. But I'd rather *you'd* navigate this hooker. The ghost of Captain Sumner itself couldn't work a traverse over Beluchistan."

"You'll do it all right," returned Cosmo, "and the next time you drop your anchor it will probably be on the head of Mount Everest."

CHAPTER XXIII

Robbing the Crown of the World

NOW that they were going with the current instead of striving to stem it, the Ark made much more rapid way than during the time that it was drifting toward the Black Sea.

They averaged at least six knots, and, with the aid of the current, could have done much better, but they thought it well to be cautious, especially as they had so little means of guessing at their exact location from day to day. The water was rough.

There was, most of the time, little wind, and often a large number of the passengers assembled in the saloon.

The noise of the deluge on the roof was so much greater than it had been at the start that it was difficult to converse, but there was plenty of light, and they could, at least, see one another, and communicate by signs if not very easily by the voice. Cosmo's library was well selected, and many passed hours in reading stories of the world they were to see no more!

King Richard and Amos Blank imitated Cosmo and the captain by furnishing themselves with a speaking-tube, which they put alternately to their lips and their ears, and thus held long conversations, presumably exchanging with one another the secrets of high finance and kingly government.

Both of them had enough historical knowledge and sufficient imagination to be greatly impressed by the fact that they were drifting, amidst this terrible storm, over the vast empire that Alexander the Great had conquered.

They mused over the events of the great Macedonian's long marches through deserts and over mountains, and the king, who loved the story of these glories of the past, though he had cultivated peace in his own dominions, often sighed while they recalled them to one another. Lord Swansdown and the other Englishmen aboard seldom joined their king since he had preferred the company of an untitled American to theirs.

The first named could not often have made a member of the party if he had wished, for he kept to his room most of the time, declaring that he had never been so beastly seasick in his life. He thought that such an abominable roller as the Ark should never have been permitted to go into commission, don't you know.

On the morning of the twelfth day after they left the neighborhood of Mount Ararat Captain Arms averred that their position must be somewhere near longitude 69 degrees east, latitude 26 degrees north.

"Then you have worked your traverse over Beluchistan very well," said Cosmo, "and we are now afloat above the valley of the River Indus. We have the desert of northwestern India ahead, and from that locality we can continue right down the course of the Ganges. In fact it would be perfectly safe to turn northward and skirt the Himalayas within reach of the high peaks. I think that's what I'll do."

"If you go fooling round any more peaks," shouted Captain Arms, in a foghorn voice, "you'll have to do your own steering! I've had enough of that kind of navigation!"

Nevertheless when Cosmo Versál gave the order the captain turned the prow of the Ark toward the presumable location of the great Himalayan range. They were now entirely beyond the influence of the whirl that had at first gotten them into trouble, and then helped them out of it, in western Asia.

Behind the barrier of the ancient "Roof of the World" the sea was relatively calm, although, at times, they felt the effect of currents pouring down from the north, which had made their way through the lofty passes from the Tibetan side.

Cosmo calculated from his estimate of the probable rate of rise of the flood and from the direction and force of the currents that all but the very highest of the Pamirs must already be submerged.

It was probable, he thought, that the water had attained a level of between seventeen and eighteen thousand feet. This, as subsequent events indicated, was undoubtedly an underestimate. The downfall in the north must have been far greater than Cosmo supposed, and the real height of the flood was considerably in excess of what he supposed.

If they could have seen some of the gigantic peaks as they approached the mountains in the eastern Punjab, south of Cashmere, they would have been aware of the error.

As it was, owing to the impossibility of seeing more than a short distance even when the light was brightest, they kept farther south than was really necessary, and after passing, as they believed, over Delhi, steered south by east, following substantially the course that Cosmo had originally named along the line of the Ganges valley.

They were voyaging much slower now, and after another ten days had passed an unexpected change came on. The downpour diminished in severity, and at times the sun broke forth, and for an hour or two the rain would cease entirely, although the sky had a coppery tinge, and at night small stars were not clearly visible.

Cosmo was greatly surprised at this. He could only conclude that the central part of the nebula had been less extensive, though more dense, than he had estimated. It was only thirty-four days since the deluge had recommenced, and unless present appearances were deceptive, its end might be close at hand.

Captain Arms seized the opportunity to make celestial and solar observations which delighted his seaman's heart, and with great glee he informed Cosmo that they were in longitude 88 degrees 20 minutes east, latitude 24 degrees 15 minutes north, and he would stake his reputation as a navigator upon it.

"Almost exactly the location of Moorshedabad, in Bengal," said Cosmo, consulting his chart. "The mighty peak of Kunchinjunga is hardly more than two hundred miles toward the north, and Mount Everest, the highest point in the world, is within a hundred miles of that!"

"But you're not going skimming around *them!*" cried the captain with some alarm.

"I shall if the sky continues in its present condition, go as far as Darjeeling," replied Cosmo. "Then we can turn eastward and get over upper Burmah and so on into China. From there we can turn north again.

"I think we can manage to get into Tibet somewhere between the ranges. It all depends upon the height of the water, and that I can ascertain exactly by getting a close look at Kunchinjunga. I would follow the line of the Brahmaputra River if I dared, but the way is too beset with perils."

"I think you've made a big mistake," said the captain. "Why didn't you come directly across Russia, after first running up to the Black Sea from the Mediterranean, and so straight into Tibet?"

"I begin to think that that's what I ought to have done," responded Cosmo, thoughtfully, "but when we started the water was not high enough to make me sure of that route, and after we got down into Egypt I didn't want to run back. But I guess it would have been better."

"Better a sight than steering among these five-mile peaks," growled Captain Arms. "How high does Darjeeling lie? I don't want to run aground again."

"Oh, that's perfectly safe," responded Cosmo. "Darjeeling is only about 7350 feet above the old sea-level. I think we can go almost to the foot of Kunchinjunga without any danger."

"Well, the name sounds dangerous enough in itself," said the captain, "but I suppose you'll have your way. Give me the bearings and we'll be off."

They took two days to get to the location of Darjeeling, for at times the sky darkened and the rain came down again in tremendous torrents. But these spells did not last more than two or three hours, and the weather cleared between them.

As soon as they advanced beyond Darjeeling, keeping a sharp outlook for Kunchinjunga, Cosmo began to perceive the error of his calculation of the height of the flood.

The mountain should still have projected more than three thousand feet above the waves, allowing that the average rise during the thirty-six days since the recommencement of the flood had been six hundred feet a day.

But, in fact, they did not see it at all, and thought at first that it had been totally submerged. At last they found it, a little rocky island, less than two hundred feet above the water, according to Cosmo's careful measure, made from a distance of a quarter of a mile.

"This is great news for us," he exclaimed, as soon as he had completed the work. "This will save us a long journey round. The water must now stand at about 27,900 feet, and although there are a considerable number of peaks in the Himalayas approaching such an elevation, there are only three or four known to reach or exceed it, of which Kunchinjunga is one.

"We can, then, run right over the roof of the world, and there we'll be, in Tibet. Then we can determine from what side it is safest to approach Mount Everest, for I am very desirous to get near that celebrated peak, and, if possible, see it go under."

"But the weather isn't safe yet," objected Captain Arms. "Suppose we should be caught in another downpour, and everything black about us! I'm not going to navigate this ship by search-light among mountains twenty-eight thousand feet tall, when the best beam that ever shot from a mirror won't show an object a hundred fathoms away."

"Very well," Cosmo replied, "we'll circle around south for a few days and see what will happen. I think myself that it's not quite over yet. The fact is, I hope it isn't for now that it has gone so far, I'd like to see the top-knot of the earth covered."

"Well, it certainly couldn't do any more harm if it got up as high as the moon," responded the captain.

They spent four days sailing to and fro over India, and during the first three of those days there were intermittent downpours. But the whole of the last period of twenty-four hours was entirely without rain, and the color of the sky changed so much that Cosmo declared he would wait no longer.

"Everest," he said, "is only 940 feet higher than Kunchinjunga, and it may be sunk out of sight before we can get there."

"Do you think the water is still rising?" asked de Beauxchamps, while King Richard and Amos Blank listened eagerly for the reply, for now that the weather had cleared, the old company was all assembled on the bridge.

"Yes, slowly," said Cosmo. "There is a perceptible current from the north which indicates that condensation is still going on there. You'll see that it'll come extremely close to the six miles I predicted before it's all over.

By the time they had returned to the neighborhood of the mountains the sky had become blue, with only occasionally a passing sunshower, and Cosmo ordered the promenades to be thrown open, and the passengers, with great rejoicings, resumed their daily lounging and walking on deck.

It required a little effort of thought to make them realize their situation, but when they did it grew upon them until they could not sufficiently express their wonder.

There they were, on an almost placid sea, with tepid airs blowing gently in their faces, and a scorching sun overhead, whose rays had to be shielded off, floating over the highest pinnacles of the roof of the world, the traditional "Abode of Snow!"

All around them, beneath the rippled blue surface, lined here and there with little white windrows of foam, stood submerged peaks, 24,000, 25,000, 26,000, 27,000, 28,000 feet in elevation! They sailed over their summits and saw them not.

All began now to sympathize with Cosmo's desire to find Everest before it should have disappeared with its giant brothers. It's location was accurately known from the Indian government surveys, and Captain Arms had every facility for finding the exact position of the Ark. They advanced slowly toward the northwest, a hundred glasses eagerly scanning the horizon ahead.

Finally, at noon on the third day of their search, the welcome cry of "Land ho!" came down from the cro'nest. Captain Arms immediately set his course for the landfall, and in the course of a little more than an hour had it broad abeam.

"It's Everest, without question," said Cosmo. "It's the crown of the world."

But how strange was its appearance! A reddish-brown mass of rock, rising abruptly out of the blue water, really a kind of crown in form, but not more than a couple of square rods in extent, and about three feet high at its loftiest point.

There was no snow, of course, for that had long since disappeared, owing to the rise of temperature, and no snow would have fallen in that latitude now, even in mid-winter, because the whole base of the atmosphere had been lifted up nearly six miles.

Sea-level pressures were prevailing where the barometric column would once have dropped almost to the bottom of its tube. It was all that was left of the world!

North of them, under the all-concealing ocean, lay the mighty plateau of Tibet; far toward the east was China, deeply buried with its 500,000,000 of inhabitants; toward the south lay India, over which they had so long been sailing; northwestward the tremendous heights of the Pamir region and of the Hindu-Kush were sunk beneath the sea.

"When this enormous peak was covered with snow," said Cosmo, "its height was estimated at 29,002 feet, or almost five and three-quarter miles. The removal of the snow has, of course, lowered it, but I think it probable that this point, being evidently steep on all sides, and of very small area, was so swept by the wind that the snow was never very deep upon it.

"The peak is certainly sinking," said de Beauxchamps at last. "I believe it has gone down three inches in the last fifteen minutes."

"Keep your eyes fixed on some definite point," said Cosmo to the others who were looking, "and you will easily note the rise of the water."

They watched it until nobody felt any doubt. Inch by inch the crown of the world was going under. In an hour Cosmo's instruments showed that the highest point had settled to a height of but two feet above the sea.

"But when will the elevation that you have predicted begin?" asked one.

"Its effects will not become evident immediately," Cosmo replied. "It may possibly already have begun, but if so, it is masked by the continued rise of the water."

"And how long shall we have to wait for the re-emergence of Tibet?"

"I cannot tell, but it will be a long time. But do not worry about that. We have plenty of provisions, and the weather will continue fine after the departure of the nebula."

They circled about until only a foot or so of the rock remained above the reach of the gently washing waves. Suddenly de Beauxchamps exclaimed:

"I must have a souvenir from the crown of the disappearing world. M. Versál, will you permit me to land upon it with one of your boats?"

De Beauxchamps's suggestion was greeted with cheers, and twenty others immediately expressed a desire to go.

"No," said Cosmo to the eager applicants, "it is M. de Beauxchamps's idea; let him go alone. Yes," he continued, addressing the Frenchman, "you can have a boat, and I will send two men with you to manage it. You'd better hurry, or there will be nothing left to land upon."

The necessary orders were quickly given, and in five minutes de Beauxchamps, watched by envious eyes, was rapidly approaching the disappearing rock. They saw him scramble out upon it, and they gave a mighty cheer as he waved his hand at them.

He had taken a hammer with him, and with breathless interest they watched him pounding and prying about the rock. They could see that he selected the very highest point for his operations.

While he worked away, evidently filling his pockets, the interest of the onlookers became intense.

"Look out!" they presently began to shout at him, "you will be caught by the water."

But he paid no attention, working away with feverish rapidity. At last he was standing to his shoe-tops in water, and many exclamations of dismay came from the Ark. But he now gave over his work, and, with apparent reluctance, entered the boat, which was rowed close up to the place where he was standing.

As the boat approached the Ark, another volley of cheers broke forth, and the Frenchman, standing up to his full height, waved with a triumphant air something that sparkled in the sunshine.

"I congratulate you, M. de Beauxchamps," cried Cosmo, as the adventurer scrambled aboard. "You have stood where no human foot has ever been before, and I see that you have secured your souvenir of the world that was."

"Yes," responded de Beauxchamps exultantly, "and see what it is—a worthy decoration for the crown of the earth!"

He held up his prize, amid exclamations of astonishment and admiration from those who were near enough to see it.

"The most beautiful specimen of amethyst I ever beheld!" cried a mineralogist enthusiastically, taking it from de Beauxchamps's hand. "What was the rock?"

"Unfortunately, I am no mineralogist," replied the Frenchman, "and I cannot tell you, but these gems were abundant. I could have almost filled the boat if I had had time.

"The amethyst," he added gaily, "is the traditional talisman against intoxication, but, although these adorned her tiara, the poor old world has drunk her fill."

"But it's only water," said Cosmo, smiling.

"Too much, at any rate," returned the Frenchman.

"I should have said," continued the mineralogist, "that the rock was some variety of syenite, from its general appearance."

"I know nothing of that," replied de Beauxchamps, "but I have the jewels of the terrestrial queen, and," he continued, with a polite inclination, "I shall have the pleasure of bestowing them upon the ladies."

He emptied his pockets, and found that he had enough to give every woman aboard the Ark a specimen, with several left over for some of the men, Cosmo, of course, being one of the recipients.

"There," said de Beauxchamps, as he handed the stone to Cosmo, "there is a memento from the Gaurisankar."

"I beg your pardon—Mount Everest, if you please," interposed Edward Whistlington, who, it will be remembered, was the Englishman rescued with Lord Swansdown from the Pyrenees.

"No," responded the Frenchman, "it is the Gaurisankar. Why will you English persist in renaming everything in the world? Gaurisankar is the native name, and, in my opinion, far more appropriate and euphonic than Everest."

This discussion was not continued, for now everybody became interested in the movements of the Ark. Cosmo had decided that it would be safe to approach close to the point where the last peak of the mountain had disappeared.

Cautiously they drew nearer and nearer, until, looking through the wonderfully transparent water, they caught sight of a vast precipice descending with frightful steepness, down and down, until all was lost in the profundity beneath.

The point on which de Beauxchamps had landed was now covered so deep that the water had ceased to swirl about it, but lay everywhere in an unbroken sheet, which was every moment becoming more placid and refulgent in the sunshine.

The world was drowned at last! As they looked abroad over the convex surface, they thought, with a shudder, that now the earth, seen from space, was only a great, glassy ball, mirroring the sun and the stars.

But they did not know what had happened far in the west!

CHAPTER XXIV

The Batholite!

AFTER the disappearance of Mt. Everest, Cosmo Versál made a careful measurement of the depth of water on the peak, which he found to be forty feet, and then decided to cruise eastward with the Ark, sailing slowly, and returning after a month to see whether by that time there would be any indications of the reappearance of land which he anticipated.

No part of his extraordinary theory of the deluge was more revolutionary, or scientifically incredible, than this idea that the continents would gradually emerge again, owing to internal stresses set up in the crust of the earth.

This would be caused by the tremendous pressure of the water, which must be ten or twelve miles deep over the greatest depressions of the old ocean-bottoms, and partly by the geological movements which he expected would attend the intrusion of the water into subterranean cavities and the heated magma under volcanic regions.

He often debated the question with the savants aboard the Ark, and, despite their incredulity, he persisted in his opinion. He could not be shaken, either, in his belief that the first land to emerge would be the Himalayas, the Pamirs, and the plateau of Tibet.

"We may have to wait some years before any considerable area is exposed," he admitted, "but it must not be forgotten that what land does first appear above the water will lie at the existing sea-level, and will have an oceanic climate, suitable for the rapid development of plants.

"We have aboard all things needed for quick cultivation, and in one season we could begin to raise crops."

"But at first," said Professor Jeremiah Moses, "only mountain tops will emerge, and how can you expect to cultivate them?"

"There is every probability," replied Cosmo, "that even the rocks of a mountain will be sufficiently friable after their submergence to be readily reduced to the state of soil, especially with the aid of the chemical agents which I have brought along, and I have no fear that I could not, in a few weeks, make even the top of Everest fertile.

"I anticipate, in fact, that it will be on that very summit that we shall begin the reestablishment of the race. Then, as the plateaus below come to the surface, we can gradually descend and enlarge the field of our operations."

"Suppose Everest should be turned into a volcano?"

"That cannot happen," said Cosmo. "A volcano is built up by the extrusion of lava and cinders from below, and these cannot break forth at the top of a mountain already formed, especially when that mountain has no volcanic chimney and no crater, and Everest had neither."

"If the lowering of the flood that caused our stranding on a mountain top in Sicily was due to the absorption of water into the interior of the crust, why may not that occur again, and thus bring the Himalayas into view, without any rising on their part?"

"I think," said Cosmo, "that all the water that could enter the crust has already done so, during the time that the depression of level which so surprised us was going on. Now we must wait for geologic changes, resulting from the gradual yielding of the internal mass to the new forces brought to bear upon it.

"As the whole earth has gained in *weight* by the condensation of the nebula upon it, its plastic crust will proportionally gain in *girth* by internal expansion, which will finally bring all the old continents to the surface, but Asia first of all."

Whether Cosmo Versál's hypotheses were right or wrong, he always had a reply to any objection, and the prestige which he had gained by his disastrously correct theory about the watery nebula gave him an advantage so enormous that nobody felt enough confidence in himself to stand long against anything that he might advance.

Accordingly, everybody in the Ark found himself looking forward to the reemergence of Mount Everest almost as confidently as did Cosmo Versál.

They began their waiting voyage by sailing across the plateau of Tibet and the lofty chain of the Yung-ling Mountains out over China.

"It was by this way that I intended to get into Tibet," said Cosmo, "if the unexpectedly rapid rise of the flood had not offered us a shorter and quicker route."

The interest of all aboard was excited to the highest degree when they found themselves sailing over the mighty domains of the Chinese emperor, who had developed an enormous power, making him the ruler of the whole eastern world.

He, with his half-billion or more of subjects, now reposed at the bottom of an ocean varying from three to five or six miles in depth. Deep beneath them lay the broad and once populous valleys of the Yang-tse-Kiang and the Hoang-Ho the "Scourge of China."

Then they swung round northward and reentered the region of Tibet, seeking once more the drowned crown of the world. In the meantime Cosmo had had the theatrical exhibitions and the concerts resumed in the evenings, and sometimes there was music, and even dancing on the long promenades, open to the outer air.

Let not that be a matter of surprise or blame, for the spirit of joy in life is unconquerable, as it should be if life is worth while. So it happened that, not infrequently, and not with any blameworthy intention, or in any spirit of heartless forgetfulness, this remarkable company of world-wanderers drifted, in the moonlight, above the universal watery grave of the drowned millions, with the harmonies of stringed instruments stealing out upon the rippling waves, and the soft sound of swiftly shuffling feet tripping over the smooth decks.

Costaké Theriade and Sir Wilfred Athelstone resumed their stormy efforts to talk each other down, but now even Cosmo was seldom a listener, except when he had to interfere to keep the peace.

King Richard and Amos Blank, however, usually heard them out, but it was evident from their expressions that they enjoyed the prospective fisticuffs rather more than the exposition of strange scientific doctrines.

Perhaps the happiest man aboard was Captain Arms. At last he could make as many and as certain observations as he chose, and he studied the charts of Asia until he declared that now he knew the latitude and longitude of the mountains better than he did those of the seaports of the old oceans.

He had not the least difficulty in finding the location of Mount Everest again, and when he announced that they were floating over it, Cosmo immediately prepared to make another measurement of the depth of water on the peak. The result was hardly gratifying. He found that it had diminished but four inches. He said to Captain Arms:

"The range is rising, but less rapidly than I hoped. Even if the present rate should be doubled it would require five years for the emergence of the highest point. Instead of remaining in this part of the world we shall have an abundance of time to voyage round the earth, going leisurely, and when we get back again perhaps there will be enough land visible to give us a good start."

"Mr. Versál," said the captain, "you remember that you promised me that I should drop my anchor on the head of Mount Everest if I worked a traverse across Beluchistan."

"Certainly I remember it; and also that you were not much disposed to undertake the task. However, you did it well, and I suppose that now you want me to fulfil the bargain?"

"Exactly," replied the captain. "I'd just like to get a mud-hook in the top-knot of the earth. I reckon that that'll lay over all the sea yarns ever spun."

"Very well," returned Cosmo. "Try it, if you've got cable enough."

"Enough and to spare," cried the captain, "and I'll have the Gaurisankar, as the Frenchman calls it, hooked in a jiffy."

This was an operation which called everybody to the rails to watch. Hundreds of eyes tried to follow the anchor as it descended perpendicularly upon the mountain-top, nearly forty feet beneath. Through the clear water they could dimly see the dark outline of the summit below, and they gazed at it with wonder, and a sort of terror.

Somehow they felt that never before had they fully appreciated the awful depths over which they had been floating. The anchor steadily dropped until it rested on the rock.

It got a hold finally, and in a few minutes the great vessel was swinging slowly round, held by a cable whose grasp was upon the top of the world! When the sensation had been sufficiently enjoyed the anchor was tripped, and the nose of the Ark was turned northwestward.

The news of what they were about to do was both welcome and saddening to the inmates of the vessel. They wished to pass once more over the lands where they had first seen the light, and at the same time they dreaded the memories that such a voyage would inevitably bring back into their minds with overwhelming force. But, at any rate, it would be better than drifting for years over Tibet and China.

They ran slowly, for there was no hurry, and the Ark had now become to them as a house and a home —their only foothold on the whole round earth, and that but a little floating island of buoyant metal. They crossed the Pamirs and the Hindu-Kush, the place where the Caspian Sea had been swallowed up in the universal ocean, and ran over Ararat, which three months before had put them into such fearful danger, but whose loftiest summit now lay twelve thousand feet beneath their keel.

At length, after many excursions toward the north and toward the south, in the halcyon weather that seldom failed since the withdrawal of the nebula, they arrived at the place (or above it) which had stood during centuries for a noon-mark on the globe.

It was midday when Captain Arms, having made his observations, said to Cosmo and the others on the bridge:

"Noon at Greenwich, and noon on the Ark. Latitude, fifty-one degrees thirty minutes. That brings you as nearly plumb over the place as you'd be likely to hit it. Right down there lies the old observatory that set the chronometer for the world, and kept the clocks and watches up to their work."

King Richard turned aside upon hearing the captain's words. They brought a too vivid picture of the great capital, six miles under their feet, and a too poignant recollection of the disastrous escape of the royal family from overwhelmed London seven months before.

As reckoned by the almanac, it was the 15th of August, more than fifteen months since Cosmo had sent out his first warning to the public, when the Ark crossed the meridian of seventy-four degrees west, in about forty-one degrees north latitude, and the adventurers knew that New York was once more beneath them.

There was great emotion among both passengers and crew, for the majority of them had either dwelt in New York or been in some way associated with its enterprises and its people, and, vain as must be the hope of seeing any relic of the buried metropolis, every eye was on the alert.

They looked off across the boundless sea in every direction, interrogating every suspicious object on the far horizon, and even peering curiously into the blue abyss, as if something might suddenly appear there which would speak to them like a voice from the past.

But they saw only shafts of sunlight running into bottomless depths, and occasionally some oceanic creature floating lazily far below. The color of the sea was wonderful. It had attracted their attention after the submergence of Mount Everest, but at that time it had not yet assumed its full splendor.

At first, no doubt, there was considerable suspended matter in the water, but gradually this settled, and the sea became bluer and bluer—not the deep indigo of the old ocean, but a much lighter and more brilliant hue—and here, over the site of New York, the waters were of a bright, luminous sapphire, that dazzled the eye.

Cosmo declared that the change of the sea-color was undoubtedly due to some quality in the nebula from whose condensation the water had been produced, but neither his own analyses, nor those of the chemists aboard the Ark, were able to detect the subtle element to whose presence the peculiar tint was due.

But whatever it may have been, it imparted to the ocean an ethereal, imponderous look, which was sometimes startling. There were moments when they almost expected to see it expand back into the nebulous form and fly away.

On the afternoon of the second day, after they again left the vicinity of New York, Cosmo went out on the rear of the Ark, and, leaning over the rail, seemed to be watching intently something in the water a considerable distance astern. Suddenly he leaned over, and, losing his balance, plunged headlong into the sea.

A cry rose from those who had been watching him from a distance, and a rush was made by Joseph Smith for the bridge. There he shouted the terrible news to Captain Arms. The latter knew what to do when there was a "man overboard." Instantly he signaled to stop the ship and to lower boats. Two were got into the water inside of three minutes, for fortunately the sea was calm and the Ark was running slowly.

The captain and Smith tumbled into the first boat and set out at full speed to find Cosmo, who, being a good swimmer, was keeping himself afloat without much difficulty. Presently they spied him, battling manfully with the slight waves, and they shouted encouragement to him. But they had a long distance to row, for there had been no time to lower an auto-launch, and they bent to their work like madmen.

They had got within five rods of the struggling man, when the captain uttered a cry of dismay.

"Look at that!" he yelled. "Gee—he's lost!"

"A shark!" cried Smith, almost dropping his oar in his excitement.

"No," shouted the captain over his shoulder as he bent to his oar, "it's a sea-serpent!"

By this time Cosmo had heard a great thrashing of water behind him, and his face looked white as he lifted it above the waves in a supreme effort to increase his speed. He must have seen the monster behind him as it raised its horrible head, with huge jaws agape.

Far behind the head the affrighted captain and his companion, who was all but unnerved, saw the surface of the water churned into foam by a long, sinuous body whose coils rose and fell with swift motion.

The awful head rose higher, as if to make surer of the prey, and was about to drop upon Cosmo, whose bald head seemed a pitiful mouthful for those mighty jaws, when a blue beam shot from the captain's outstretched hand and the "ruh—ruh—ruh" of a big automatic pistol, discharging its fire in an unintermitted stream of projectiles, was heard.

Captain Arms had dropped his oar and leveled the weapon almost at a single motion. The huge creature's head dropped to one side, but still the jaws made a swooping snap at Cosmo, who avoided them by a desperate leap in the water.

The captain seized his oar again and dashed the boat forward, unaided by Smith, who was now completely overcome with terror and excitement. But before they could reach him Cosmo had been thrown under water by a blow from one of the thrashing coils.

Still the captain pressed on, shouting to Smith to help him, and in a moment the boat was itself in the midst of the terrible coils. The head of the monster lay upon the water, staining it red; but life was by no means extinct, and the coils continued to churn the sea into foam.

One of them came down upon the boat and overturned it, pitching out the two men. But it was of levium and continued to float, and they both managed to scramble aboard.

By this time the struggles of the sea-serpent were becoming feeble, but where was Cosmo Versál? The captain gazed hastily round on all sides, but could see nothing of him.

"Drowned," he muttered. "Killed by that blasted serpent! Now, what'll we do?"

Meanwhile, the second boat had arrived.

"Look for the commodore!" shouted Captain Arms. "Look with all your blasted eyes! He's gone down!"

At that moment there was a gurgling sound at the captain's side, and a hand reached up out of the water and grasped his water-filled boat.

It was Cosmo Versál. He had been perhaps a full minute under water, and he could not speak. They hauled him over the thwart and laid him down. As they did so a loud cheer saluted their ears, and they saw that the Ark, which, under the conduct of the mariner whom the captain had left in charge, had rounded about, was nearing the scene of the struggle, with hundreds of eager faces staring over the bulwarks.

"Cheer—you! Cheer!" yelled the captain. "You've got good reason!"

And he added a "tiger" himself to the renewed outburst from the Ark.

When they reached the Ark they could see the long body of the sea-monster undulating like an enormous black-and-white ribbon afloat upon the waves. Some of the captain's projectiles must have gone through its brain.

Cosmo was not seriously hurt by the blow he had received, and after an hour or two of rest in his cabin he came out smiling and bowing to the congratulations that were showered upon him.

Before night he seemed to have forgotten all about his adventure; but the passengers talked of nothing else, tormenting themselves with imagining what would have become of them if the sea-serpent had seized his prey.

Cosmo did not refer to the incident again until, at night, he and the captain were alone on the bridge. Then he said suddenly:

"Captain Arms, I owe you my life. I could not have been spared at this time. But you are the stuff that is needed to reestablish the empire of man over the earth."

"The old world was good enough for me," responded the captain. "But who would ever have dared to spin a yarn like this? I've heard times enough about the sea-serpent, but I'd have taken a marlinespike to the seaman who ventured to tell me that the time was coming when I'd kill one skimming over America. I wonder if there's any more of 'em nosing around the Alleghany Mountains down below?"

"The earth," said Cosmo, "has gone back to its youth. The flood has brought the creatures of the primeval ocean out of their lurking-places in the great deeps, and they are beginning to explore their new possessions."

Recalling memories of the past, vivid and so innumerable now that they had no more heart for the diversions of the Ark which had so long distracted them, the passengers hung over the railings of the deck, and talked in low tones, while day after day the great vessel forged slowly toward the west.

It was three weeks after they had left the vicinity of New York, and the observations showed that they must be nearing the eastern border of the Colorado plateau, when one day a bird alighted on the railing of the bridge, close beside Cosmo and Captain Arms.

"A bird!" cried Cosmo. "But it is incredible that a bird should be here! How can it ever have kept itself afloat? It surely could not have remained in the air all this time, and it could not have rested on the waves during the downpour from the sky! Its presence here is absolutely miraculous!"

The poor bird, evidently exhausted by a long journey, remained upon the rail, and permitted Cosmo to approach closely before taking flight to another part of the Ark. Cosmo at first thought that it might have escaped from his aviary below.

But close inspection satisfied him that it was of a different species from any that he had taken into the Ark, and the more he thought of the strangeness of its appearance here the greater was his bewilderment.

While he was puzzling over the subject the bird was seen by many of the passengers, flitting from one part of the vessel to another, and they were as much astonished as Cosmo had been, and all sorts of conjectures were made to account for the little creature's escape from the flood.

But within an hour or two Cosmo and the captain, who were now much oftener alone upon the bridge than they had been during their passage over the eastern continents, had another, and an incomparably greater, surprise.

It was the call of "Land, ho!" from the lookout.

"Land!" exclaimed Cosmo. "Land! How can there be any land?"

Captain Arms was no less incredulous, and he called the lookout down, accused him of having mistaken a sleeping whale for a landfall, and sent another man aloft in his place. But in a few minutes the same call of "Land, ho!" was repeated.

The captain got the bearings of the mysterious object this time, and the Ark was sent for it at her highest speed. It rose steadily out of the water until there could be no possibility of not recognizing it as the top of a mountain.

When it had risen still higher, until its form seemed gigantic against the horizon, Captain Arms, throwing away his tobacco with an emphatic gesture, and striking his palm on the rail, fairly shouted:

"The Pike! By—the old Pike! There she blows!"

"Do you mean Pike's Peak?" demanded Cosmo.

"Do I mean Pike's Peak?" cried the captain, whose excitement had become uncontrollable. "Yes, I mean Pike's Peak, and the deuce to him! Wasn't I born at his foot? Didn't I play ball in the Garden of the Gods? And look at him, Mr. Versál! There he stands! No water-squirting pirate of a nebula could succeed in downing the old Pike!"

The excitement of everybody else was almost equal to the captain's, when the grand mass of the mountain, with its characteristic profile, came into view from the promenade-decks.

De Beauxchamps, King Richard, and Amos Blank hurried to the bridge, which they were still privileged to invade, and the two former in particular asked questions faster than they could be answered.

Meanwhile, they were swiftly approaching the mountain.

King Richard seemed to be under the impression that they had completed the circuit of the world ahead of time, and his first remark was to the effect that Mount Everest appeared to be rising faster than they had anticipated.

"That's none of your pagodas!" exclaimed the captain disdainfully; "that's old Pike; and if you can find a better crown for the world, I'd like to see it."

The king looked puzzled, and Cosmo explained that they were still near the center of the American continent, and that the great peak before them was the sentinel of the Rocky Mountains.

"But," replied the king, "I understood you to say that the whole world was covered, and that the Himalayas would be the first to emerge."

"That's what I believed," said Cosmo, "but the facts are against me."

"So you thought you were going to run over the Rockies!" exclaimed the captain gleefully. "They're no Gaurisankars, hey, M. de Beauxchamps?"

"*Vive les Rockies! Vive le Pike!*" cried the Frenchman, catching the captain's enthusiasm.

"But how do you explain it?" asked King Richard.

"It's the batholite," responded Cosmo, using exactly the same phrase that Professor Pludder had employed some months before.

"And pray explain to me what is a batholite?"

Before Cosmo Versál could reply there was a terrific crash, and the Ark, for the third time in her brief career, had made an unexpected landing. But this time the accident was disastrous.

CHAPTER XXV

The End of the Ark

ALL on the bridge of the Ark, including Captain Arms, who should surely have known the lay of the land about his childhood's home, had been so interested in their talk that before they were aware of the danger the great vessel had run her nose upon a projecting buttress of the mountain.

She was going at full speed, too. Not a person aboard but was thrown from his feet, and several were severely injured.

The prow of the Ark was driven high upon a sloping surface of rock, and the tearing sounds showed only too clearly that this time both bottoms had been penetrated, and that there could be no hope of saving the huge ship or getting her off.

Perhaps at no time in all their adventures had the passengers of the Ark been so completely terrorized and demoralized, and many members of the crew were in no better state. Cosmo and the captain shouted orders, and ran down into the hold to see the extent of the damage. Water was pouring in through the big rents in torrents.

There was plainly nothing to be done but to get everybody out of the vessel and upon the rocks as rapidly as possible.

The forward parts of the promenade-deck directly overhung the rock upon which the Ark had forced itself, and it was possible for many to be let down that way. At the same time boats were set afloat, and dozens got ashore in them.

While everybody was thus occupied with things immediately concerning their safety, nobody paid any attention to the approach of a boat, which had set out from a kind of bight in the face of the mountain.

Cosmo was at the head of the accommodation-ladder that was being let down on the starboard side, when he heard a shout, and, lifting his eyes from his work, was startled to see a boat containing, beside the rowers, two men whom he instantly recognized—President Samson and Professor Pludder.

Their sudden appearance here astonished him as much as that of Pike's Peak itself had done. He dropped his hands and stared at them as their boat swiftly approached. The ladder had just been gotten ready, and the moment the boat touched its foot Professor Pludder mounted to the deck of the Ark as rapidly as his great weight would permit.

He stretched out his hand as his foot met the deck, and smilingly said:

"Versál, you were right about the nebula."

"Pludder," responded Cosmo, immediately recovering his aplomb, and taking the extended hand of the professor, "you know the truth when you see it."

Not another word was exchanged between them for the time, and Professor Pludder instantly set to work aiding the passengers to descend the ladder. Cosmo waved his hand in greeting to the President, who remained in the boat, and politely lifted his tall, but sadly battered hat in response.

The Ark had become so firmly lodged that, after the passengers had all got ashore, Cosmo decided to open a way through the forward end of the vessel by removing some of the plates, so that the animals could be taken ashore direct from their deck by simply descending a slightly sloping gangway.

This was a work that required a whole day, and while it was going forward under Cosmo's directions the passengers, and such of the crew as were not needed, found their way, led by the professor and the President, round a bluff into a kind of mountain lap, where they were astonished to see many rough cottages, situated picturesquely among the rocks, and small cultivated spaces, with grass and flowers, surrounding them.

Here dwelt some hundreds of people, who received the shipwrecked company with Western hospitality, after the first effects of their astonishment had worn off. It appears that, owing to its concealment by a projecting part of the mountain, the Ark had not been seen until just at the moment when it went ashore.

Although it was now the early part of September, the air was warm and balmy, and barn-yard fowls were clucking and scratching about the rather meager soil around the houses and outbuildings.

There was not room in this place for all the newcomers, but Professor Pludder assured them that in many of the neighboring hollows, which had formerly been mountain gorges, there were similar settlements, and that room would be found for all

Parties were sent off under the lead of guides, and great was the amazement, and, it may be added, joy, with which they were received in the little communities that clustered about the flanks of the mountain.

About half of Cosmo's animals had perished, most of them during the terrible experiences attending the arrival of the nucleus, which have already been described, but those that remained were in fairly good condition, and with the possible exception of the elephants, they seemed glad to feel solid ground once more under their feet.

The elephants had considerable difficulty in making their way over the rocks to the little village, but finally all were got to a place of security. The great Californian cattle caused hardly less trouble than the elephants, but the Astorian turtles appeared to feel themselves at home at once.

Cosmo, with King Richard, de Beauxchamps, Amos Blank, Captain Arms, and Joseph Smith, became the guests of Professor Pludder and the President in their modest dwellings, and as soon as a little order had been established explanations began. Professor Pludder was the first spokesman, the scene being the President's "parlor."

He told of their escape from Washington and of their arrival on the Colorado plateau.

"When the storm recommenced," he said, "I recognized the complete truth of your theory, Mr. Versâl—I had partially recognized it before—and I made every preparation for the emergency.

"The downfall, upon the whole, was not as severe here as it had been during the earlier days of the deluge, but it must have been far more severe elsewhere.

"The sea around us began to rise, and then suddenly the rise ceased. After studying the matter I concluded that a batholite was rising under this region, and that there was a chance that we might escape submergence through its influence."

"Pardon me," interrupted King Richard, "but Mr. Versâl has already spoken of a 'batholite.' What does that mean?"

"I imagine," replied the professor, smiling, "that neither Mr. Versâl nor I have used the term in a strictly technical sense. At least we have vastly extended and modified its meaning in order to meet the circumstances of our case.

"Batholite is a word of the old geology, derived from a language which was once widely cultivated, Greek, and meaning, in substance, stone, or rock, 'from the depths.'

"The conception underlying it is that of an immense mass of plastic rock rising under the effects of pressure from the interior of the globe, forcing, and in part melting its way to the surface, or lifting up the superincumbent crust.

"Geologists had discovered the existence of many great batholites that had risen in former ages, and there were some gigantic ones known in this part of America."

"That," interposed Cosmo, "was the basis of my idea that the continents would rise again, only I supposed that the rise would first manifest itself in the Himalayan region.

"However, since it has resulted in the saving of so many lives here, I cannot say that my disappointment goes beyond the natural mortification of a man of science upon discovering that he has been in error."

"I believe," said Professor Pludder, "that at least a million have survived here in the heart of the continent through the uprising of the crust. We have made explorations in many directions, and have found that through all the Coloradan region people have succeeded in escaping to the heights.

"Since the water, although it began to rise again after the first arrest of the advance of the sea, never attained a greater elevation than about 7,500 feet as measured from the old sea-level contours, there must be millions of acres, not to say square miles, that are still habitable.

"I even hope that the uprising has extended far through the Rocky Mountain region."

Professor Pludder then went on to tell how they had escaped from the neighborhood of Colorado Springs when the readvance of the sea began, and how at last it became evident that the influence of the underlying "batholite" would save them from submergence.

In some places, he said, violent phenomena had been manifested, and severe earthquakes had been felt, but upon the whole, he thought, not many had perished through that cause.

As soon as some degree of confidence that they were, after all, to escape the flood, had been established, they had begun to cultivate such soil as they could find, and now, after months of fair weather, they had become fairly established in their new homes.

When Cosmo, on his side, had told of the adventures of the Ark, and of the disappearance of the crown of the world in Asia, and when de Beauxchamps had entertained the wondering listeners with his account of the submarine explorations of the *Jules Verne*, the company at last broke up.

From this point—the arrival of the Ark in Colorado, and its wreck on Pike's Peak—the literature of our subject becomes abundant, but we cannot pause to review it in detail.

The reemergence of the Colorado mountain region continued slowly, and without any disastrous convulsions, and the level of the water receded year by year as the land rose, and the sea lost by evaporation into space and by chemical absorption in the crust.

In some other parts of the Rockies, as Professor Pludder had anticipated, an uprising had occurred, and it was finally estimated that as many as three million persons survived the deluge.

It was not the selected band with which Cosmo Versâl had intended to regenerate mankind, but from the Ark he spread a leaven which had its effect on the succeeding generations.

He taught his principles of eugenics, and implanted deep the germs of science, in which he was greatly aided by Professor Pludder, and, as all readers of this narrative know, we have every reason to believe that our new world, although its population has not yet grown to more than ten millions, is far superior, in every respect, to the old world that was drowned.

As the dry land spread wider extensive farms were developed, and for a long time there was almost no other occcupation than that of cultivating the soil. President Samson became a scientific farmer.

Amos Blank, returning to his old methods, soon became the greatest farmer of them all, buying out the others until Cosmo Versál sternly interfered and compelled him to relinquish everything but five hundred acres of ground.

But on this Blank developed a most surprising collection of domestic animals, principally from the stocks that Cosmo had saved in the Ark.

The elephants died, and the Astorian turtles did not reproduce their kind, but the gigantic turkeys and the big cattle and sheep did exceedingly well, and many other varieties previously unknown were gradually developed with the aid of Sir Wilfred Athelstone, who found every opportunity to apply his theories in practise.

King Richard also became a farmer, but on a very moderate scale, and he never ceased to mourn for his lost dominions, recalling the time when it had been said that the beat of the British drum accompanied the rising sun round the world.

Of Costaké Theriade, and the interatomic force, it is only necessary to remind the reader that the marvelous mechanical powers which we possess today, and which we draw directly from the hidden stores of the protons and electrons, trace their origin to the brain of the "speculative genius" from Roumania, whom Cosmo Versál had the insight to save from the great deluge.

All of these actors long ago passed from the scene, but while they remained Cosmo Versál continued to be their guiding star, and his genius gave an impulse that has never since been lost.

At his death all of New America mourned, and afterward was carved, high on the brow of the great mountain on which his voyage ended, in gigantic letters, cut deep in the living rock, and covered with shining, incorrodible levium, an inscription that will transmit his fame to the remotest posterity:

HERE RESTED THE ARK OF
COSMO VERSÁL!
He Foresaw and Prepared for the Second Deluge,
And Although Nature
Aided Him in Unexpected Ways,
Yet, but for Him, His Warnings, and His Example
The World of Man Would Have Ceased
To Exist.

Postscriptum.

While these words are being written, news comes of the return of an aero, driven by interatomic energy, from a voyage of exploration round the earth.

It appears that the Alps are yet deeply buried, but that Mount Everest now lifts its head more than ten thousand feet above the sea, and that some of the loftiest plains of Tibet are beginning to reemerge.

Thus Cosmo Versál's prediction is verified, though he has not lived to see its fulfillment and missed seeing the emergence of Tibet from the flood.

THE END

New Stomachs for Old

By W. ALEXANDER

(Concluded)

clusion that it would be best for each of us to get our own stomachs back again. I will make Tony this proposition, Your Honor, subject to your approval. I will pay all damages you may assess in this larceny case. I will pay all hospital fees for the operation to re-exchange our stomachs and pay Tony another ten thousand dollars."

"That sounds very fair, Colonel," said Judge Arthur. "What do you say, Tony?"

"I say, mucha fine, Judge, me giva back da stomach and taka da mun."

A few days later, Dr. Wentworth performed the operation returning the stomachs to their respective owners. Before the options expired the doctor and Mr. Lewis called on Mr. Brown at the bank and explained clearly the difficulties that the Colonel had gotten into. When the banker realized how he had misjudged his old friend, he was more than anxious to make good for his mistake and immediately took steps to close the options for the Colonel.

It might be well to add in closing, for the benefit of the medical fraternity, that the second operation was a complete success. Furthermore, the Colonel was never again afflicted with stomach trouble. Dr. Wentworth's explanation as given in the May issue of the Medical Journal, when stripped of medical phraseology and technicalities is this:

The Colonel's stomach having lain for months in the powerful, vigorous body of the young Italian, was built up by nature to function properly in its new environment and so was returned to the Colonel, a powerful organ, just as an athlete might return in the pink of condition after undergoing a course of training.

THE END

H. G. Wells—Hell of a Good Fellow—Declares His Son

By H. G. ROBISON

[We know our readers are very much interested in H. G. Wells. Recently Mr. Wells' young son, Frank Wells, a young man some 20 years of age, came to the United States to study films. An interview regarding his father was published in the New York World, to whom we are indebted for the following, which we know will be of interest to all our readers.]

NATURALLY very shy, Frank Wells found it difficult to put into words his adoration for his famous father, H. G. Wells. "Oh, please, I don't know what to say." He tried to dismiss the interview. "I can't even be myself because I happen to be the son of a celebrity. Wherever I go people point me out as the "son of H. G. Wells, famous British author and historian," not as "young Frank Wells, who wants to be a famous director of movies."

"Why can't people realize that I'm just plain Frank?" he asked, forgetting for the moment that he is the youngest son of a world renowned author. He is anxious to make such a mark in the cinema world as his father has made in the literary world, without the aid of his father's reputation, and for that reason he is keeping his identity secret while in America.

Frank, who with his companion and friend, Hugh Brooke, has an interest in an English film company, arrived in the United States on Sept 7 for a ten-day sojourn to study American film production. He wants it known that he is here to study and not for social purposes. "Even father is interested in the movies to the extent of directing all of his literary abilities to building up the qualities of modern scenarios," he said.

Frank is in his early twenties, just out of college, and his eagerness to learn, to see and to do shines in his blue eyes, which are nervously observant. He is the typical English college graduate with a great lump of ambition.

Slender, nervous, anxious to be diplomatic, young Frank leaned back on a small couch and smoked the first cigaret he has smoked in two years.

"America is quite hectic," he said, "so I've taken to smoking to quiet my nerves. Oh, don't bother," as some one searched for an ash tray. "It's so trivial. Just flick your ashes on the carpet. As father would say—" He interrupted himself, conscious that the persons in the room were leaning forward to catch his every word.

Characterizes Dad as a Good Fellow

IN an exclusive interview granted to The World, Frank Wells paid tribute to his father, the man and the novelist. "What do you think of your father?" he was asked.

The boy stammered, "Well, you see, what can I say to that? I think he's a hell of a good fellow. We understand one another without ever talking very much. We can be together for hours without conversing, but he will know what I am thinking and I will know his thoughts.

"I am too much like him to be a good critic of him.

"We're great pals because father is a regular fellow. He's nearing sixty and looks forty, and he's interested in the same things which interest young people. He takes a lot of exercise to keep fit, but tennis is his game. I think he's a jolly good fellow in every respect. But when I say that, people naturally conclude that my opinion is biased. Though, if you knew him, I'm sure you would agree with me.

"Being a celebrity doesn't make father stern nor aloof from people. He goes to dances occasionally, but not to dance. He goes to meet people because he thinks people are always interesting. Father goes out of his way to meet interesting people, the same as other people go to meet him, but his interests in people are different from the interests of others. He goes to observe, to understand, but the people who come to meet my father, want, as a rule, to meet the celebrity."

"How do you know your father understands you?" he was asked.

"Because he understands youth." The boy smiled tolerantly. "If you have read my father's books you will readily agree with me. He understands young people because he believes in seeing the things they see, in reading the things they read, and in doing the things they do. In short, it is one of my father's boasts that he keeps up with the trend of modern events to the extent of being most modern himself. Understanding youth as he does, he understands me.

"Sometimes I get rather worried about him when his health is not so good. When the weather is disagreeable in England he runs away to Southern France. This keeps him abroad half the time. Instead of taking a rest from writing when he is abroad, I know he works harder than when he is at home, but I wouldn't dare suggest to him that he should take a vacation from his work, it means so much to him.

"When he is at home his usual habit is to spend the entire morning in his study writing. There are no children around to shout or be noisy; our estate is in an out of the way place about forty miles from London, and father can work undisturbed as long as he wishes. He doesn't, as the reading public seems to think, sit around and wait for something to happen—he has what I call "permanent inspiration." His writing is a business as well as an art to him.

"But, aside from his fame, aside from the manner in which the public views him, to me he is the ideal father."

"And what about your father as a man?" was suggested.

"As a man? It is very difficult for me, not being versed in the art of giving interviews, to speak with ease on a subject nearest my heart. I can only be crude but sincere about what I say. If father could see how embarrassed I am now he would understand why I'm so awkward about talking.

"Father acts and thinks independently. It is one of the traits which I most admire in him. He always knows what is being written, what is being said, but he isn't easily swayed, although he is influenced by what goes on around him.

"Take, for instance, the little incident in London last May. Every year in London we have what is known as the Russian Ballet season. Father, who is fond of all the arts, went to see 'Les Noces,' a ballet written by Stravinsky and given at His Majesty's Theatre.

"Dancing has always appealed to father, and this ballet he enjoyed particularly. Eager to know what the morning papers had to say about it, he read the reviews. The criticisms were terrible. They just pulled the ballet to pieces. The critics were very harsh and father sensed that they were unjust.

"In the face of every criticism being unfavorable, he wrote letters to all the papers in which he set forth his opinion as to why the ballet was a splendid one. In his letters he roundly criticised the critics, and in the end, the company, which had been depressed by the reviews, gave the ballet again.

Finds His Thoughts Agree with Father's

"THIS is just a little incident. It also goes to show that father will go out of his way to be kind to people, regardless of what others may think of them or their work.

"Success has had no ugly effect on him as it has on many people. To me he seems to be untouched by his success and takes his fame with modesty.

"Some people have the idea that when a book of father's is published he gives an enormous celebration at which he reads the novel aloud. This is a foolish idea. When the book comes off the press father is usually too busy writing another one to stop to celebrate its publication. Though he does take great pride in every piece of work which is published.

"Just because he wrote the 'Outline of History' is no reason for his readers to believe that he goes about the house talking in terms of battles and treaties." Frank laughed, "Not at all.

"Of all the men I know, father has the greatest sense of humor. He keeps his auditors in an uproar with his witty conversation, with some little turn of phrase which is unusually clever. All young people like to be around him, like to converse with him and see his laughing blue gray eyes light up while he is talking.

"Any one can talk to father because he is universally interested in everything which goes on. People from all over the world have no difficulty in discussing varied subjects with him.

"On week-ends our home is packed with people from everywhere. People who are nobodies in the eyes of the world, and others who are celebrated wherever they go. Father is interested in all of them. He understands everyone and gathers all types around him. People—people—people, he is always interested in them."

"What do you think of your father as a novelist?"

"I've read all of my father's books. It doesn't make any difference what I may be reading at the time a new book is published, I would rather throw it aside and read one of my father's books. Not because he wrote it, but because I know it will be better than what I happen to be reading.

"I know that whatever books he writes are up to the times, because he keeps up with the moderns.

"Whenever I read of his books I find my own thoughts expressed in words and put into print. I find myself agreeing with whatever he has written, perhaps because we two think so much alike.

"I believe my father avoids one mistake which so many novelists make: Every one he writes about is a living character, not a creature of the imagination. He chooses his fiction people from the people he meets, from the throng of folk he knows.

"Often, when reading one of his novels, I feel certain that I know most of the characters, having met them in our house. Father takes his characters and his incidents from life; he understands people and is tolerant of their faults. That is why, I believe, his books appeal to every one."

Discussions

In this department we shall discuss, every month, topics of interest to all of our readers. The editors invite correspondence on all subjects directly or indirectly related to the stories appearing in this magazine. Only letters of interest to all of our readers will be published, and discussed by the editors. Due to the great influx of mail it is impossible to answer all letters personally, and in case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

MARTIAN GERMS AND HUMANITY

Editor, AMAZING STORIES:

I had considered writing on this subject before (just after reading "Station X" to be exact), but what really decided me was the letter of Mr. Christ from just across the bay. He says that interplanetary travelers would need immunation. In "Station X" and in Wells' "War of the Worlds" this was taken into consideration. But why? Would not our terrestrial beings be even more immune than the residents of the foreign planet? It is a well known fact that germs, both animal and vegetable, have, like insects, each a special victim or victims. The terrestrial traveler goes to places where beings of his own species have lived long enough to develop specialized parasites. A factor which they have apparently overlooked is that if *our* germs attack the Martians the ones *they* bring would attack *us* as the white man's germs have attacked most of the original populations of lands he has conquered. The Chinese, who differ more from the rest of the races of the genus homo than those other races differ from each other, and who have been longer isolated, have at least one disease which does not attack any other of the aforementioned races.

P. S. Apropos of your article in *Science and Invention* on the Ark and the story "The Second Deluge," I understand that a new deluge account (from Assyria I think) has been discovered in which the dimensions of the Ark dwarf the Leviathan.

CLIFTON AMESBURY,
Berkeley, Cal.

[The point that our correspondent makes is well taken. It is, however, not new. As a matter of fact, no one knows what an invasion from other worlds would mean to our inhabitants. Most likely nothing much would happen to either the invaders or to the inhabitants of the earth, as far as diseases are concerned. Measures could be taken pretty quickly to nullify such diseases, just as we are doing now on our own planet when explorers travel in other countries and meet races with which they have never had any contact.—EDITOR.]

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Discussions—

SOME HELPFUL CRITICISMS

Editor, AMAZING STORIES:

I have just purchased and read through the October issue of AMAZING STORIES.

I believe that I read Mr. Serviss' "A Columbus of Space" years ago.

I have always been fond of this type of reading, but now have little time for reading or writing. As a young man, I spent considerable time in writing impossible stories of this character myself, but there was no market for such manuscript in those days, and they have long ago been thrown away.

There are, however, a few points of criticism I would like to make concerning all such stories. First that the reasoning back of the alleged scientific discovery that makes the marvel possible be founded and be a possible extension of our present scientific knowledge. Any theory or hypothesis is acceptable, but it should commence with known scientific data. Outside of Jules Verne, H. G. Wells, and an occasional story by some other author, all the marvelous fairy tales of scientific fiction brutally and needlessly transgress against known facts. Second, where the plot of the story depends on the contraversion of some Gibraltar of scientific truth the real fact should be fully explained in a foot note.

Now, as to material for future stories, there is a wealth of possibilities. Take the medical side. Could we discover a solution that would promote immediate knitting of severed nerve ends by some process of selectivity, the most marvelous restorative operations would be possible. Such a solution probably lies in an extract from one of the five ductless glands, and would have to be accompanied by a similar extract prepared from human chile that would offer immediate food. Could we magnify human ova and sperm until it was possible to recognize, in each of the 12 cells, or the 24 cells in some stages, just which parts constitute future brains and future vital organs, it would be possible to breed a race of super-creatures, supreme in any given field or department. As a corrolary of such knowledge would come the necessity for a temperature, atmosphere and method of division that would permit handling without death to the cells, and permit normal growth and feeding during transplantation. It should be distinctly possible, by joining a tiny artery to a tiny vein, and planting at the junction a tiny group of feeding cells, to plant foetal teeth, which in a few months or years could be promoted to a natural growth, replacing lost molars. The possibilities in this field are as countless as human needs.

Turning to the field of interatomic energy and molecular construction, we have the transmutation of elements and a vast field of possibilities. Any speculation based on Dr. Tree's discoveries, on the spacing of the revolving ions, on alloys due a knowledge of this spacing, on breakdown of atoms, would be a great scientific story. My own conception, however, of a transmutation story would be based on positive electric saturation, temperature producing maximum atomic activity and sudden pressure producing coalescence of the negative centers; in other words, I regard synthetic building of the atom under the conditions similar to those that exist in the stars as far more probable than the splitting off method. As to interatomic energy, driving a car through space as in Mr. Serviss' story, that is illogical and not in accordance with reason. It would have been just as easy for Mr. Serviss to have based his story on the discovery of positive cohesive magnetic attraction, and by the demagnetization or "degravityzing" of a limited amount of confined matter to produce a repulsive force that would send the conveyor attached to such atoms at will away from the earth or any mass. The control of this force would make the car attached amenable to the will of the operator. But, even the tremendous energy locked up in the atom would be useless as a propulsive agent in interplanetary space, because there is no similar material on which to vent its force. You cannot push against nothing.

There remains also a vast and useful field of speculation in the making of products to meet human needs, or human vanities; in the changes that advancing civilization will make in government, in character, in customs and morals, in comforts and amusements, in the physical aspect of the earth, in the possibilities of overpopulation or of decimination. No man can foresee the future. The time may come when a few governing superhumans, bred to brain and sensation will enjoy unimagined luxury, producing only two of their kind for each pair, living scores of years beyond our present span of life, and served by millions of sexless drones, bred to a maximum of muscle and a minimum of brains; used as the ox is used and ruthlessly exterminated when their period of service ends. Quien sabe? It is a fertile field for the imagination.

Well, my time is up, and I have transgressed rather long on your patience. Thanks for the magazine and good luck to the venture, AMAZING STORIES.

H. W. WIDNER,
New Haven, Conn.

[We agree with many things that the author of this excellent letter suggests, but we must disagree with him entirely when he says that any propulsive agency in interplanetary space would be useless, because you cannot push against nothing. This statement is not at all correct, and we call our author's attention to the research work done by Professor Goddard, who invented the now famous moon rocket. It was shown experimentally that a rocket with explosive charges will indeed travel in air-less space and Goddard proved this with a long tube in which there was a vacuum. In fact, a rocket travels much better in a vacuum, than in an atmosphere, because it takes less power to move an object in a vacuum without the air resistance. The rocket is propelled by the kicking effect set up against the rocket itself by the explosive charge. It is today an accepted fact by every scientist who has made a study of the subject that interplanetary propulsion is possible by such means.—EDITOR.]

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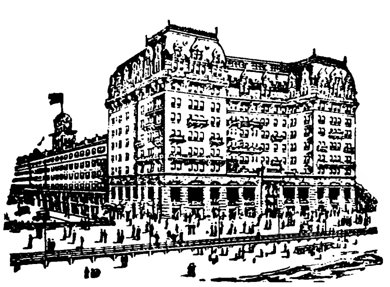

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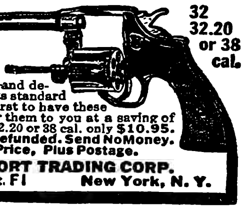

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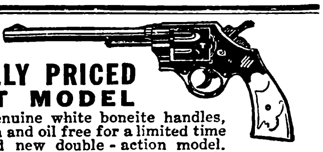

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AMAZING STORIES "INFERNAL, DAMNABLE" . . . .

Editor, AMAZING STORIES:

If the oxymoron may be pardoned, I should like to say that AMAZING STORIES was the most infernal, damnable benefaction which magazine literature—I use the word advisedly—had ever added to itself.

It is infernal and damnable because once a month it turns an otherwise amiable and attractive household into an inferno of selfishness—son against father, daughter against mother, and each against the field—each seeking to pre-empt the copy of the magazine to learn how Gerald got out of the mountains of Mars or how Octavius saved the fair Olivia from the machinations of the superheterodyne monster of the Moon.

Father, however, has hit on the solution of the difficulty—he no longer fights with the family for the possession of the magazine—he quietly slips out to a news-stand and buys another.

My son wrote me from camp this summer, all pepped up, as he had induced about a dozen people to subscribe, his joy being because father had once casually remarked that in his humble opinion if the venture was to live it would have to have a large circulation.

As a boy, my favorite author was Jules Verne, and I have been having a whale of a time re-reading some of my old favorites, reading new ones, and at the same time learning that there are and were other writers who make him look like a two-spot, for example that chap who wrote "The Man Who Saved the Earth," which, without qualification or exception is the best story of its kind I have ever read.

More power to you. Keep up the good work and be sure to have the science in the stories correct so that I shall not be obliged to put the ban on them as I was obliged to do with the Muehlbach "historical" novels in which the history in so many cases never happened.

BRADFORD BUTLER,
Counselor at Law,
New York, N. Y.

[Here is a man of learning, an attorney at law, who upholds our view that classics, like Jules Verne and H. G. Wells, should be reprinted in a magazine of the type of AMAZING STORIES. A few readers have written us that we should not print Jules Verne, because his works are available in every library. Nevertheless we believe that the vast majority of our readers, along with Mr. Butler, do not feel like running to the library, where it is not always possible to secure the book. Also, many of our readers no doubt want to reread their favorite author in AMAZING STORIES now, just as, we are sure, many new stories which we print in AMAZING STORIES today will be reread by the younger generation in years to come.—EDITOR.]

GRUESOME STORIES

Editor, AMAZING STORIES:

I wish to add my suggestions to those of others in making your magazine more desirable.

To start with, why not eliminate all gruesome stories? For example, "The Talking Brain," "The Telepathic Pick-Up." I don't think that anybody would enjoy such gruesome things. The other day, my wife, who is an amateur biologist, and who has read all the former issues of your magazine, threw away the last number with disgust after reading "The Telepathic Pick-Up." After reading the story myself, I can't say that she wasn't right.

I passed the magazine around to several people and they all expressed the same feeling.

I wonder what other people think on this subject.

Also, I often thought, how interesting it would be if with every issue there would be printed one or two articles on real science, especially on subjects hard to comprehend. For example, the "Quantum Theory," the present-day situation of the Einstein theory, what happens when a choke coil chokes? Why an alternating electric current passes thrugh a condenser? How about the recent discoveries in atomic power, and what about the Coolidge electron tube?

Make these articles interesting and *to the point.* Use mathematics up to algebra with which most of us are familiar. Above all *don't make them too sugar coated.*

One more point:

Why not call to the attention of would be scientifiction writers that it is not absolutely necessary that the hero or heroine should die and their inventions be destroyed. Ninety per cent. of all stories end tragically. I am sure that American people appreciate a story with a cheerful ending more than a tragic denouement.

I am giving these suggestions, not to criticize but, to help make this new-born scientinfant more desirable.

However, I forgot to tell you what in my opinion, is the greatest fault with your magazine. Its greatest fault is that it comes out only once a month.

H. SARTZMANN, M.E.,
Brooklyn, N. Y.

[We print the above interesting letter chiefly to show that tastes of the various readers do not run alike. We have received many letters of commendation on both "The Talking Brain" and "The Telepathic Pick-Up." They are certainly not worse than Edgar Allan Poe's well-known masterpieces,

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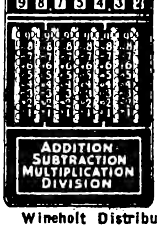

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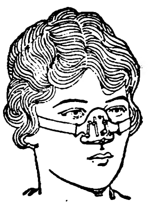

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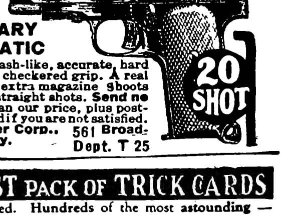

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such as, for instance, "The Pit and the Pendulum," and many others of his classic horror stories. The same might be said of Shakespeare's "Hamlet" and other classics. The other thoughts as to recent inventions you will see incorporated in a number of stories by new authors which are in preparation now.

The fault which you find with the inventions which are destroyed by their authors at the end of the story is more or less universal, because the author, somehow or other, knows that many people will believe the story is a fact and that if the machine or invention were not destroyed, many simple-minded people would be misled. While the average man will laugh at such an idea, most of our readers will be surprised to learn how many simple-minded people there are in this country who actually believe that many scientifiction stories are facts, rather than fancy.—EDITOR.]

INTELLECTUAL VALUE OF SCIENTIFIC FICTION STORIES

Editor, AMAZING STORIES:

Let me express my appreciation of AMAZING STORIES and its great work. I am a charter subscriber to this magazine, and when my subscription runs out, I shall renew it immediately. It is without exception the best magazine I have ever read.

There is a point which I would like to mention, and which I have not seen brought forth very strongly in any of your editorials in this magazine, and which I think should be emphasized.

Science is good for everyone. If everyone knows a little science, the world will be better off, and will advance more quickly. But, if everyone delves a little into science, something else will happen. They will begin to think. My high school chemistry professor, when I first began that course, said to me, and to the class, "You are taking chemistry to learn to think." I have never forgotten that. And I have found that he was right. There are too few people in this world who do a little thinking. I once saw an incident which brought this before me vividly.

While visiting the body-shop of a well-known automobile concern, a man was pointed out to me; the man was known among his fellows as a little "out." I watched him for some time, and came to the conclusion that my informant was correct. The man was slightly insane—not insanity as we think of it sometimes, but simply "queer." The reason for that man's insanity was because he did not think enough. His job was such that no thinking was required of him for his nine hours each day, and when outside the factory, what little thinking he did do was of a degraded and unclean type. His thinking machinery became rusty, so to speak, and this man whom I saw was the result.

That is why we need science. Science is sure to make one think. But everyone does not care for science, or think that they do not. It is here that AMAZING STORIES does a great work. It breaks down the great wall of illiteracy and the greater wall of lack of interest, which science, as science, could never pierce. It reaches the common people, where science is most needed. It reaches them through the sensationalism, as one may call it, which is immediately manifest by its cover. And when one once reads a story, whether he like or hate science, he is a confirmed reader of the magazine. And he cannot help getting a great deal of practical scientific education out of it. Consequently, he begins then and there to think, and to think constructively, and we have another ameliorating citizen of our community, wherever it may be. He cannot help getting his science from AMAZING STORIES, because the stories therein are thrilling, entrancing romances, built by clever authors around flint-hard, ice-cold scientific facts.

A friend of mine, who has been a friend since high school days, could never get any sense out of chemistry, which is the only science he ever tried. He was dumb, he cared nothing for the subject. He was, however, intelligent in other things. One day, while waiting for me, he picked up an issue of AMAZING STORIES and began to read it. I might mention that the story he read was "In the Abyss," by H. G. Wells. He liked it. Then he read "The Man From the Atom," by G. Peyton Wertenbaker, and, while he was skeptical about the possibility of such adventures, or such a machine, he began to think, and he began to think science. And he began to think that science was not quite as bad as it might be. Probably soon you will have him as a subscriber to AMAZING STORIES.

And now that I have told my little tale, I will close, with the wish that AMAZING STORIES may forever be the foremost scientifiction magazine printed.

EARL B. BROWN,
Amesbury, Mass.

[We are glad to publish the letter of our correspondent because it fits in excellently with our most cherished ambition—that is, to uplift humanity through the means of Science. It is strange, but a fact nevertheless, that although we are all immersed in the ocean of science abounding all about us, it seems to be too deep for the average man, and he pays scant attention to it. Whereas, if he should become really interested in science, his horizon would immediately enlarge and he would become a more valuable individual, not only to himself but to the community as a whole. If AMAZING STORIES is accomplishing this, to ever so little an extent, we feel that its mission is being fulfilled.—EDITOR.]

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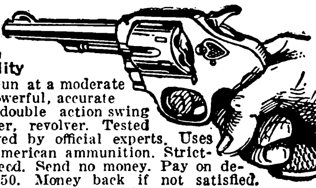

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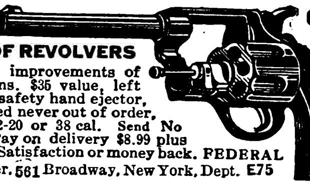

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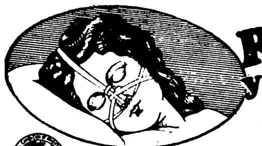

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Editor, AMAZING STORIES:

Referring to your last issue, and your invitation to discuss matters with you, I have the following suggestion to make:

Why don't you have a double page in your magazine that would call itself the "Amazing Stories News Bulletin," and that would report amazing news only, similar the attached item?

I am certain, that by publishing the name of the one who sends you such articles, you would receive more than you would be able to print.

Furthermore I am certain that this "News Bulletin" would interest your readers even more than your fiction.

We all read your stories with the desire that they might soon become true. The Bulletin would be the missing link.

Hoping very much that you will at least think my suggestion over,

OLIVER HERBERT,
New York, N. Y.

[AMAZING STORIES is a purely fiction magazine, and for the present we intend to keep it as such. AMAZING STORIES' sister magazine, *Science and Invention*, every month brings all amazing new inventions, such as described in the clipping which you enclosed, "German Plans Rocket Trip to Moon Next Summer." This moon rocket, by the way, has been described in *Science and Invention* a number of times, and while such items are of interest, we believe for the present they should not take up valuable space in AMAZING STORIES.—EDITOR.]

"THE DIAMOND LENS"

Editor, AMAZING STORIES:

I hope that for your "Discussions" Department you will not object to receive this letter from an old reader. Your December issue seems to me one of your best, ushering out the old year in splendor. One story in particular I'd like to make a suggestion about, "The Diamond Lens," by Fitz-James O'Brien. My wife and I had quite a few discussions about the story and we figured that a *sequel* should be written to it.

Linley had committed what seems a perfect crime when he murdered Simon, the dealer in order to get possession of the coveted diamond. His new microscope did not render any aid to science and in this his case parallels that of Dr. Moreau, who met his death through the product of his brain and the maker of Frankenstein, whose name I forget, who also met death at the hands of his product, the grotesque creature he had formed. Why then should Linley fare better than they?

Let a scientifiction story be written around the murder incident and Linley get his just punishment.

SAM FISHMAN,
Tarrytown, N. Y.

[It is perhaps a tribute to the merit of a story, when a reader desires a sequel, but the author of the beautiful fiction "The Diamond Lens" died many years ago, and it would be an adventurous author who would undertake to write a sequel to this classic. But as we read the story, Linley seems to us rather a subject for the insane asylum than for the prison or for the death sentence.—EDITOR.]

A SEQUEL TO "THE COLUMBUS OF SPACE" ASKED FOR

Editor, AMAZING STORIES:

The stories in the October issue of AMAZING STORIES were great with the exception of one. That one was "A Columbus of Space," by Mr. Garrett P. Serviss. It didn't end right. You know yourself that the hero and heroine should not get killed. Do you think there is any chance of getting Mr. Serviss to write a sequel to that story, telling about the lone survivor returning to the swamp. There he digs up the car, cleans it up and goes back to the Plateau of Venus. And there he finds Edmund and Ala and Julia alive. After taking Julia home, he could have taught Ala his language and they could have come back to the earth and have lived happily ever after, as the fairy book says. If this sequel could be written and published I am sure many more besides myself would appreciate it, because that story is the best story you have published in AMAZING STORIES. So I hope you will do this.

ERNEST BISHOP,
Miami, Fla.

[Why must all stories end "right?" Does everything in life end right? Does the hero always get his heroine, and do they always live happily ever after? We believe that since the reverse is the case most of the time in life, there is no reason why it shouldn't be in fiction. The modern school of fiction tries to approximate life as it is, not the romantic life which we should like to have. For instance, the modern German school of authors, in nearly every case, show no happy endings. On the contrary, an increasing number are tragic. Nearly all of the German films have unhappy endings, and those German films that come to this country are usually changed to fill the demands of the American public for a happy ending. We feel that Professor Serviss ended his story very well, although most of our readers will probably not agree with us here.—EDITOR.]

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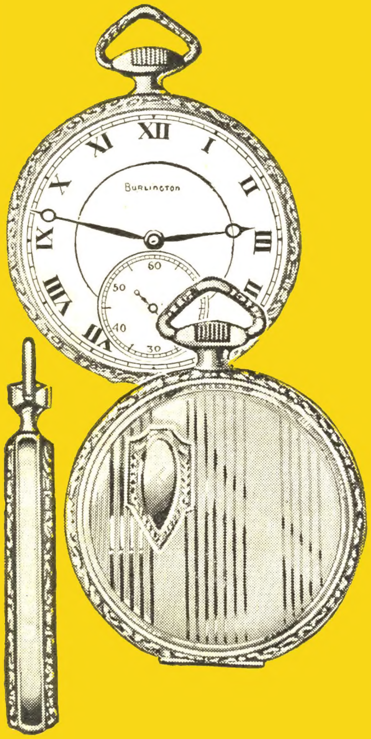

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